



**TETRA TECH**

## **SPILL PREVENTION, CONTROL AND COUNTERMEASURES PLAN (Revision 1)**

**Asher Associates, LLC  
Bright and Beaver Hole Fields  
Niobrara County, Wyoming**

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Revision 0, February 5, 2010

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<b>Regulatory Cross Reference</b>			
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§ 112.3(d)	Professional Engineer (PE) certification with five elements	2.3	2
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§ 112.6(b), (c), (d)	PE certification for deviations from Plan requirements	N/A	N/A
§ 112.6(c)(4)	Bulk storage container inspections if not complying with 112.8(c)(6) or 112.12(c)(6)	N/A	N/A
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§ 112.7(a)(1)	General requirements; discussion of facility's conformance with rule requirements	4.2	7
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<b>Regulatory Cross Reference</b>			
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§ 112.7(b)	Failure prediction (sources, quantities, rates, and directions)	4.8 & Appendix B	11
§ 112.7(c)	Secondary containment for all areas from which a discharge of oil could occur (i.e. mobile refuelers, loading/unloading areas, transformers, oil filled operational equipment, etc.) other than bulk containers	4.1	6
§ 112.7(d)	Explanation of impracticability of secondary containment	4.2	7
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§ 112.9(c)(1)	Containers compatible with material and conditions of storage	4.5	11

<b>Regulatory Cross Reference</b>			
<b>Regulation</b>	<b>Description</b>	<b>Section #</b>	<b>Page #</b>
§ 112.9(c)(2)	Secondary containment for tank battery, separation and treating units with capacity of largest container & freeboard for precipitation	Appendix B	
§ 112.9(c)(2)	Drainage from undiked areas with potential to discharge oil directed to catchment basin or holding pond	NA- see 4.2, Appendix B&C	7
§ 112.9(c)(3)	Visually inspect containers, foundations and supports	5.1.1	21
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§ 112.9(d)	Facility transfer operations:	4.8.1	11
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## 1.0 INTRODUCTION

The purpose of this Spill Prevention, Control, and Countermeasures (SPCC) plan is to describe measures implemented by Asher Associates, LLC to prevent oil discharges to navigable waterways from occurring and to prepare Asher Associates, LLC to respond in an effective and timely manner to mitigate the impacts of a discharge. This plan has been developed to meet the requirements of 40 CFR, Part 112.

## 2.0 SPCC PLAN ADMINISTRATION

### 2.1 Management Approval (40 CFR 112.7)

Asher Associates, LLC is committed to the prevention of discharges of oil to the environment, including navigable waters, and maintains the highest standards for spill prevention control through regular review, updating, and implementation of this SPCC plan. With the signature below, I certify that this Spill Prevention, Control, and Countermeasures plan will be implemented as herein described.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Name: Raiford Patton  
Title: Vice President

### 2.2 Designated Person Accountable for Oil Spill Prevention (40 CFR 112.7 (f) (2))

The following person reports to management and is accountable for discharge prevention at the subject facilities.

Name: Jerry Moorehead

Title: Contract Operator, Lance Creek Enterprises

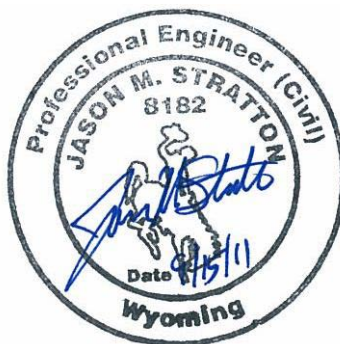
### 2.3 Professional Engineer Certification (40 CFR 112.3 (d))

By Means of this Professional Engineer Certification, I hereby attest that:

- 1) I am familiar with the Provisions of 40 CFR Part 112,
- 2) I, or my agent, have visited and examined the facilities,
- 3) This SPCC has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 CFR 112,
- 4) Procedures or required inspections and testing have been established, and
- 5) This plan is adequate for the subject facilities.

Jason M. Stratton  
Registered Professional Engineer

Date: September 15, 2011



Signature of Registered Professional Engineer  
Registration No: 8182; State: Wyoming

### 2.4 Location of SPCC Plan (40 CFR 112.3 (e))

A copy of this SPCC plan will be maintained at the following locations:

- Control Room, Well 41-8 Facility
- Control Room, Well 32-20 Injection Facility
- Asher Associates, LLC, Headquarters, Greenwood Village, CO

The following facilities are included in this SPCC plan:

Well 44-5 Facility  
Bright Facility (Well 41-8)  
Beaver Hole Facility  
Well 22-21 Facility  
32-20 Injection Facility.

All of the above facilities are completed sites. Secondary containment at some sites is currently inadequate and is discussed in Appendix C.



## 2.5 Plan History

This plan is the initial plan for the sites previously listed and is based on site visits to the facilities on December 3, 2009.

Plan Name	Date Created
1. Spill Prevention Control and Countermeasure Plan – Beaver Hole and Bright Fields	February 5, 2010
2.	
3.	
4.	

## 2.6 Plan Review and Amendments (40 CFR 112.5)

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC plan is conducted at least once every five years. Based on the December 3, 2009, site inspection date, the next SPCC plan review and evaluation must be conducted by Asher Associates, LLC on or before December 3, 2014. As a result of this review and evaluation, Asher Associates, LLC will amend the plan to include more effective spill prevention and control technology if:

- 1) Such technology will significantly reduce the likelihood of a spill event from the facilities, and
- 2) Such technology has been field-proven at the time of the review.

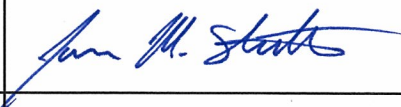
Technical amendments to this SPCC plan shall be certified by a Registered Professional Engineer within six months if modifications to the facility materially affect the potential for discharges of oil into or upon navigable waters. Modifications which may require plan amendments and certification include:

- 1) Commissioning or decommissioning of containers,
- 2) Replacement, reconstruction, or movement of containers,
- 3) Reconstruction, replacement or installation of piping systems,
- 4) Construction or demolition actions that may alter secondary containment structures,
- 5) Changes in products or type of equipment service, or
- 6) Changes in operating and maintenance procedures.

Administrative or non-technical amendments do not require the certification of a Registered Professional Engineer. Examples of administrative changes include, but are not limited to, phone numbers, name changes, or any non-technical text revisions.

### 2.6.1 Review Summary

By my signature below, I attest that I have completed a review and evaluation of this SPCC plan for the Bright and Beaver Hole field facilities.

Review Date	Signature	Printed Name	Title	Plan Amended (Yes/No)
1. 9/15/11		Jason M. Stratton	P.E.	Yes
2.				
3.				
4.				
5.				

### 2.6.2 Amendment Summary and Certification

Amendments to this plan are required whenever there is a change in facility design, construction, operation, or maintenance, which materially affects the facility's potential for the discharge of oil into or upon navigable waters of the United States. Such amendments shall be implemented as soon as possible, but no later than six months after such changes occur. The engineer's signature below certifies both amendments.

This SPCC plan for the Bright and Beaver Hole fields has been amended as follows.

Amendment Date	Purpose and Description of Amendment	Amendment Type (Administrative or Technical)	Amendment Certified by P.E. (Yes/No)
September 15, 2011	Revision 1 of February 5, 2010, SPCC Plan to address U.S. EPA plan review comments.	Administrative and Technical	Yes

Note: P. E. certification is not required for administrative amendments.

### 3.0 FACILITY AND OPERATOR GENERAL INFORMATION

1. Name of Facility: **Bright and Beaver Hole Fields**
2. Type of Facility: **Onshore Oil Production**
3. Name and Address of Owner or Operator  
Name: **Asher Associates, LLC**  
Address: **2350 E. Willamette Lane  
Greenwood Village, Colorado 80121**

**A list of CONTACT NAMES and telephone numbers is included in Appendix A.**

4. Facility Locations: **A map displaying all Facility locations can be found in Appendix B. Individual Facility locations can also be found in the Appendix B (Facilities List and Site Specific information).**

#### 3.1 Facility Description (40 CFR 112.7(a)(3))

Asher Associates, LLC is the owner/operator of oil production facilities located in the Bright and Beaver Hole fields of Niobrara County, Wyoming. The sites included in this SPCC plan are:

- Bright Facility (Well 41-8)
- 32-20 Injection Facility
- Beaver Hole Facility
- Well 22-21 Facility
- Well 44-5 Facility

These sites generally consist of oil field production equipment including wells, pumps, piping, and aboveground storage tanks. Flowlines, primarily subsurface, exist from the well heads to the tank battery. Gathering lines are not present at the facilities as all produced oil is transferred via tanker trucks. The sites generally operate on a continual basis unless temporarily shut down for maintenance or inadequate production. The sites are not staffed full-time; a contract operator makes once daily routine operation and maintenance visits. The Bright and Beaver Hole facilities are located in remote and sparsely populated rangelands.

#### 3.2 Oil Storage and Handling

Asher Associates, LLC operates several oil wells, three tank batteries, and a produced water injection facility. The wells are tied to the tank batteries with primarily subsurface flowlines. The flowlines transport produced fluids (crude oil and water) and gas where they are separated for storage (crude oil) or disposal (water and gas). In addition to the produced oil, the facilities store much lesser volumes of additives and hydraulic oils in 55-gallon drums or smaller containers for equipment operation and maintenance.

The layout of the sites and the storage tank volumes are shown on the site diagrams and data sheets contained in Appendix B.

## 4.0 SPILL PREVENTION AND CONTROL

### 4.1 Discharge Prevention Measures (40 CFR 112.7 (a)(3)(ii)) and (40 CFR 112.7 (c))

Secondary containment exists around exterior bulk storage containers used for the storage of produced oil and produced water. However, secondary containment for most of the tanks is currently inadequate. Secondary containment does not currently exist for several storage vessels (flow through and 55-gallon drums) primarily existing inside facility buildings or portions of some aboveground flowlines. The Bright and Beaver Hole facilities will be routinely visited by a contract operator except in hazardous weather. Regular visual inspections of the sites will be conducted during these site visits. Equipment, including bulk storage, processors, aboveground piping and valves, and secondary containment, will be maintained according to industry standards.

### 4.2 Facility Conformance and Discussion of Impractical Containment (40 CFR 112.7(a)(1) and (2)) and (40 CFR 112.7(d))

Secondary containment is practicable for all qualified storage containers, flow-through vessels, and aboveground flow lines. The subject facilities are in conformance with 40 CFR 112 as amended on July 17, 2002, December 26, 2006, and November 5, 2009, with the following exceptions noted below. Facilities addressed in this SPCC plan are defined as tank batteries and all associated processors, piping, bulk storage, drums, totes, or other containers of 55 gallons or greater which contain oil as defined by 40 CFR 112. Asher Associates, LLC will provide secondary containment for all vessels at subject facilities. Vessels at facilities will include all containers of 55 gallons or larger. The reason for any nonconformance and the provided equivalent environmental protection measures are noted in the table below.

Conformance Deviation	Reason for Nonconformance	Equivalent Environmental Protection Measures
Secondary containment – aboveground storage tanks, flow through vessels, and aboveground flow lines	Inadequate construction of earthen berms.	Asher Associates, LLC will be reconstructing earthen berms to provide capacity equal to the largest tank volume plus a 100-year 24 hour precipitation event plus 10%. A schedule of work is contained in Appendix C.

### 4.3 Facility Physical Layout (40 CFR 112.7 (a)(3))

The subject properties are typical onshore crude oil production facilities consisting of wellheads, separation equipment, pumps, associated piping, and bulk storage containers.

A diagram of each subject facility is located in Appendix B. The following details and location information, as applicable, are included on each diagram:

- Containers and their contents,
- Transport loading and unloading areas,

- Predicted direction of surface flow,
- Secondary containment locations,
- Drum and portable container storage areas (oil).

#### 4.4 Drainage Pathways and Distances to Navigable Waters

Drainage pathways are described in Appendix B for each facility. Predicted direction of flow, distance to nearest drainage, and direction to nearest drainage are detailed in Appendix B.

#### 4.5 Container and Secondary Containment Construction and Applicable Industry Standards (40 CFR 112.3)

All containers and secondary containments are constructed with materials that are compatible with the material stored and the conditions of storage. The design, construction operation, and maintenance of the subject facilities are to be conducted in conformance with the following industrial standards as applicable.

Facility Component	Applicable Industry Standards
Secondary Containment	API Standard 2610 - Design, Construction, Operation, Maintenance and Inspection of Terminal and Tank Facilities API Recommended Practice 51 - Onshore Oil and Gas Production Practices for Protection of the Environment
Loading and Unloading Areas	API Standard 2610 - Design, Construction, Operation, Maintenance and Inspection of Terminal and Tank Facilities NFPA 30 - Flammable and Combustible Liquids Code
Diked Area Drainage	API Standard 2610 - Design, Construction, Operation, Maintenance and Inspection of Terminal and Tank Facilities API Recommended Practice 51 - Onshore Oil and Gas Production Practices for Protection of the Environment
Storage Tank Construction and Materials	API Standard 620 - Design and Construction of Large Welded Low Pressure Storage Tanks API Standard 650 - Welded Steel Tanks for Oil Storage STI F911 - Standard for Diked Aboveground Steel Tanks
Facility Equipment	API Specification 12 B - Bolted Tanks for Storage of Production Liquids API Specification 12 D - Field Welded Tanks for Storage of Production Liquids API Specification 12 F - Shop Welded Tanks for Storage of Production Liquids API Specification 12 J - Oil Gas Separators API Specification 12 K - Indirect-Type Oil Field Heaters API Specification 12 L - Vertical and Horizontal Emulsion Treaters

Facility Component	Applicable Industry Standards
Corrosion Protection for Buried Piping	NACE Recommended Practice 0169 - Control of External Corrosion on Underground or Submerged Metallic Piping Systems STI Recommended Practice 892 - Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems
Inspection Procedures	API Recommended Practice 12R1 - Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Productions Service API Recommended Practice 510 - Alternative Rules for Exploration and Production Pressure Vessels API Standard 574 - Inspection Practices for Piping Systems. API Standard 653 - Tank Inspection, Repair, Alteration, and Reconstruction
Inspection and Testing of Piping and Valves	API Standard 570 - Piping Inspection Code API Recommended Practice 574 - Inspection Practices for Piping System Components
Secondary Containment for Drilling and Workover Operations	API Recommended Practice 52 - Land Drilling Practices for Protection of the Environment
Integrity Testing	API Standard 653 - Tank Inspection, Repair, Alteration, and Reconstruction API Recommended Practice 575 - Inspection of Atmospheric and Low-Pressure Tanks API Standard 570 - Piping Inspection Code

Note: API - American Petroleum Institute  
NACE - National Association of Corrosion Engineers  
NFPA - National Fire Protection Association  
STI - Steel Tank Institute

#### 4.6 Flowline Maintenance Program [112.9(d)(3)]

Because the facility is relying on internal spill containment and clean-up capabilities to address discharges, the Flowline Maintenance Program is specifically implemented to maintain the integrity of the primary container (in this case piping) to minimize releases of oil from this part of the production facility. The facility's aboveground flowlines will be inspected regularly for leaks at connections and joints, inspected for external corrosion (pitting, flaking), and maintained to minimize the potential for a discharge as summarized in the following table. Records of integrity inspections and line replacements will be kept at the Asher Associates, LLC office for at least three years (integrity test results will be kept for ten years).

### Components of Flowline Maintenance Program

Component	Measures/Activities
Configuration	<ul style="list-style-type: none"><li>With the exception of the buried portion of the flowline from the well to the treater, the flowlines and appurtenances (valves, flange joints, supports) can be visually observed for signs of leakage, deterioration, or other damage and will be located within secondary containment.</li></ul>
Inspection	<ul style="list-style-type: none"><li>Lines will be visually inspected for leaks and corrosion as part of the daily operations and formally as part of the annual inspection, as discussed in Section 5.1.</li><li>The buried portions of the flowlines will be visually observed for damage or coating condition whenever they are repaired, replaced, or otherwise exposed.</li></ul>
Maintenance	<ul style="list-style-type: none"><li>Any leak in the flowline or appurtenances will be promptly addressed by isolating the damaged portion and repairing or replacing the faulty piece of equipment. Asher Associates, LLC does not accept pipe clamps and screw-in plugs as permanent forms of repair.</li></ul>

#### 4.7 Contact List and Phone Numbers (40 CFR 112.7 (a)(3-5))

Lists of contact names and phone numbers for Asher Associates, LLC personnel, company-approved cleanup contractors, and federal and state agencies are contained in Appendix A. Also included in Appendix A are forms to be used for organizing release notification information and the submission of required information to the EPA Regional Administrator for qualified discharges.

#### 4.8 Hazard Identification & Spill Prediction (40 CFR 112.7 (a) and (b))

The following discusses the potential failure modes that could result in the release of crude oil or produced water. Predicted failure points, release volumes, and the predicted flow rates for each facility are presented in Appendix B.

##### 4.8.1 Tanker Truck Loading and Unloading Operations

###### 4.8.1.1 FAILURE MODES

Piping or valve failure, hose failure, overflow, and human error.

###### 4.8.1.1.1 Rate of Flow (see also Appendix B)

Variable depending upon the type, size, and exact location of the failure, and the amount of oil in the tanker truck. The ambient temperature at the time of the release may affect the viscosity of the oil and thereby impact the rate of flow. Flow rates resulting from hose and valve failures can range from 1 gallon per hour up to 400 bbls per hour or more. The flow rate for tank truck overflows typically will not exceed 5 to 10 bbls per minute. Truck tank failures may result in releases that are essentially instantaneous.

Hydrogen sulfide releases containing potentially high concentrations of hydrogen sulfide may be associated with releases. A hydrogen sulfide contingency plan has been developed and should be consulted before working around released fluids or contaminated soils.

#### 4.8.1.1.2 Preventative Measures

Tanker truck loading and unloading operations will be conducted in accordance with United States Department of Transportation regulations (49 CFR 177). All loading operations will be attended by the truck driver. No smoking or open flames will be allowed in the vicinity of the storage tanks and loading area. Wheel chocks will be placed at the wheel nearest the truck loading connection to reduce the risk of the truck movement during loading operations. Following the completion of loading operations, the transfer line is disconnected and all valves and outlets on the tanker truck and the storage tank will be visually inspected for leakage prior to vehicle departure.

Tank truck loading areas are relatively flat and not well drained. In the event of a release during tank truck loading, the release is expected to be immediately discovered because the operation is manned. Releases would be relatively small and would not rapidly flow from the area. These releases would be contained with spill containment materials including booms, sorbents, and native earth available at the facilities.

### 4.8.1.2 PIPING FAILURE

#### 4.8.1.2.1 Failure Modes

Both aboveground and buried pipelines have the potential to rupture or leak. Associated flanges, screwed connections, valves, and gauges are also subject to corrosion and may fail or leak.

#### 4.8.1.2.2 Rate of Flow (see also Appendix B)

Variable, depending on the size and location of the piping related failure. The maximum potential rate of flow is not expected to exceed the oil production rate as listed in Appendix B.

#### 4.8.1.2.3 Discharge Quantity (see also Appendix B)

Variable depending upon the line size and pressure, type, and extent of the failure and the length of time that the failure went undetected.



#### 4.8.1.2.4 Prevention Measures

Personnel routinely perform visual inspections of aboveground piping and buried flowline rights-of-way to detect failures. As warranted by soil conditions, corrosion protection is provided for buried pipelines.

#### 4.8.1.3 MOBILE STORAGE FAILURE

##### 4.8.1.3.1 Failure Modes

Mobile storage for additives, oil, etc. is more prone to damage and wear than fixed containers. Rupture and corrosion are possible. Improper placement onsite can result in spillage or tipping. Damage and subsequent spillage can occur from improper transport or not securing load during transport.

##### 4.8.1.3.2 Rate of Flow (see also Appendix B)

Variable, depending on the size and location of the related failure. The maximum potential rate of flow will not exceed the volume of the container in an instantaneous release of fluid.

##### 4.8.1.3.3 Discharge Quantity (see also Appendix B)

Variable depending on the size and level of fluid in the vessel

##### 4.8.1.3.4 Prevention Measures

Personnel perform visual inspections before and after transport. Routine visual inspections will be conducted by personnel at the facility. Mobile vessels will be placed in secondary containment whenever possible.

#### 4.8.2 Vulnerable Areas

##### 4.8.2.1 DRINKING WATER SUPPLIES

There are currently no domestic water supply wells in the area registered with the Wyoming State Engineer's office.

##### 4.8.2.2 POPULATED AREAS

There are no population centers in the area. Isolated ranches are present.

##### 4.8.2.3 RECREATIONAL AREAS

No recreational areas exist at or near the facilities.

#### 4.8.2.4 AGRICULTURAL AREAS

The area covered by this plan consists primarily of rangeland used for cattle grazing.

#### 4.8.2.5 WILDLIFE CONSERVATION AREAS

There are no wildlife conservation areas within the subject area.

#### 4.8.2.6 INTERSTATE WATERS

The area of interest is crossed by primarily ephemeral streams. The named drainages are upper-most reaches of tributaries to interstate waters. Appendix B provides the distance to navigable waters or unnamed tributaries leading to navigable waters.

#### 4.8.2.7 HIGHWAYS

The nearest highway is State Highway 85 approximately 6 miles east of the facilities.

### 4.8.3 **Risk Assessment**

#### 4.8.3.1 DRINKING WATER

Low Risk – No surface water in this area is used for human consumption. There are no domestic water wells within the area according to the Wyoming State Engineer's office database.

#### 4.8.3.2 RESIDENCES

Low risk – There are no residences in the area.

#### 4.8.3.3 AGRICULTURE

Moderate to High Risk – The area is used for cattle grazing, much of which is open range. The cattle have access to areas of oil field operations and have the potential to be affected by a release. However, the large area over which the cattle are scattered decreases the probability that they will be directly affected in the event of a release. The cattle drink from streams near the batteries, which could be impacted by a release.

#### 4.8.3.4 RECREATIONAL

Low Risk – There are no recreational areas near the facilities.

#### 4.8.3.5 INTERSTATE WATER

Moderate Risk – All drainages near identified hazards contribute eventually to interstate waters. However, most of the drainages are ephemeral streams that are typically supplied by produced water, snow melt, and rain during October through May and are dry the remainder of the year.

#### 4.8.3.6 HIGHWAYS

Low Risk – No identified hazards are located in the proximity of State Highway 85.

### 4.8.4 Response Actions (40 CFR 112.7 (a)(3)(iv)&(v)) (40 CFR 112.7 (a)(5))

#### 4.8.4.1 INITIAL DISCOVERY:

The first person to discover the release should immediately notify Asher Associates, LLC personnel responsible for coordinating spill response. A list of contact names and phone numbers for Asher Associates, LLC personnel is contained in Appendix A.

Hydrogen sulfide releases containing potentially high concentrations of hydrogen sulfide may be associated with releases. A hydrogen sulfide contingency plan has been developed and should be consulted before working around released fluids or contaminated soils.

The following information should be conveyed:

- Dangerous or hazardous conditions (fire, injury),
- Location of the spill,
- Nature of the released liquids (oil, produced water, clean water),
- Source of the spill (pipeline, mobile storage, etc), and
- An estimate as to extent or size of the release.

The personnel on-site shall then make all attempts to interrupt the progress of the spill by:

- Eliminating the source of the leak if possible by shutting valves or **otherwise interrupting the flow from the source of the leak, and**
- Using any spill prevention materials on hand to halt the progress of mobile spills. Booms and sorbent material will be stored at each battery. The areas where the materials are stored will be clearly marked with signage. Erection of temporary dams may also be used to stop the downstream progress of a release.

#### 4.8.4.2 SECONDARY RESPONSE:

Upon notification of a spill, the Asher Associates, LLC representative in charge of spill response will dispatch a team with spill prevention materials appropriate

to the size and nature of the spill. Contact information for approved cleanup contractors, federal, state, and local agencies is contained in Appendix A.

All spills greater than 10 barrels of crude must be verbally reported to the Wyoming Oil and Gas Conservation Commission no later than the next business day. Spills of less than 10 barrels, which are immediately contained, removed, and disposed of properly and do not enter the waters of the state, must be reported within 15 working days. A form for reporting the releases is included as Appendix A.

Major spills such as those defined below will be contained and remediated by a full response team as necessary.

1. Spills of crude oil, condensate, or produced fluids greater than 10 barrels,
2. Spills of refined crude oil products, including but not limited to, gasoline, diesel fuel, aviation fuel, asphalt, road oil, kerosene, fuel oil, and derivatives of mineral, animal, or vegetable oils, and
3. Any volume of oil which results in a fire, will reach a water course, or may with reasonable probability endanger public health or result in substantial damage to property or the environment.

Minor spills not meeting the criteria above for major spills shall be reported internally and documented by the designated spill response coordinator.

#### **4.9 Discharge Response Supplies**

Boom, sorbent, and other spill response materials will be stored at each battery. The response equipment inventory for the facility will include:

- Empty 55-gallon drums,
- Polyethylene sheeting,
- Absorbent socks/booms
- Granular absorbent material, and
- Safety Gear (gloves, boots, etc.).

Additional supplies and equipment will be maintained by emergency response contractors.

##### **4.9.1 Countermeasures (40 CFR 112.7(a)(3)(iv))**

Mobile oil spills should be contained as soon as possible by the construction of earthen dams or by the placement of mechanical barriers. Free oil may be removed from the ground by the use of a vacuum truck. Sumps or trenches may be dug to intercept or drain free oil. Remaining free oil may be removed from the ground by the use of oil-absorbent materials.

When all free oil has been removed, the extent of the soil contamination should be delineated, both vertically and horizontally. Soil remediation standards will depend on the regulatory agency with primacy for the spill. Agencies involved in the spill may be the United States Environmental Protection Agency, Wyoming Oil and Gas Conservation Commission, and/or

the Wyoming Department of Environmental Quality, and the Bureau of Land Management. Any soil removed should be disposed of in accordance with applicable state and federal regulations.

To prevent stormwater contamination, all impacted soils that are removed should be placed in an approved disposal site or in a secure interim storage location for future remediation or disposal, unless more immediate on-site techniques are implemented. Placing the impacted soil on polyethylene sheeting and providing appropriate cover, diking, or stormwater diversion is acceptable.

A final cleanup standard determined by the regulatory agency with primacy should be achieved as soon as practicable. Several methods are acceptable for the cleanup of oil contaminated soil; regulatory agencies may specify which methods are appropriate.

Oil spills into surface waters must be remediated to the satisfaction of the landowners and regulatory agencies. The spill should be contained as soon as possible by the use of floating booms or other mechanical barriers. Free oil may be removed from the water by the use of a vacuum truck or by oil-skimming equipment. Remaining free oil may be removed from the water by the use of oil-absorbent materials such as spray-sorb.

Oil-absorbent materials may also be used to remove oil that has accumulated on shoreline soils, rocks, and vegetation. Oil contaminated shoreline materials may require removal to a suitable treatment site for cleanup as described above.

Any necessary spill remediation supplies not immediately available in the field will be provided by spill response contractors.

#### **4.9.2 Methods of Disposal (40 CFR 112.7 (a)(3)(v))**

All soils and sorbent materials associated with spills will be disposed of according to local, state, and federal regulations by land farming by permit, disposal at a licensed disposal facility, or by other company- and agency-approved means. If contaminated soil must be temporarily stored, it shall be stored in a diked or contained area where contamination from the soil will not spread.

Waters affected by spills will be processed through an oil skimmer and subsequently tested to qualify for release under an Asher Associates, LLC discharge permit or integrated into the process water system for treatment. No water will be discharged without visual inspection and laboratory testing as appropriate or required by local, state or federal regulatory agencies.

#### **4.9.3 Written Commitment of Manpower (40 CFR 112.7 (k)(2)(ii))**

Asher Associates, LLC is committed to a strong antipollution and spill prevention program. We are committed to designing and operating our facilities in a manner that will minimize the size and occurrence of spills. We are committed to a pro-active training and inspection program that will insure that our facilities are operated and maintained in a manner that will prevent or minimize the occurrence of spills.

In the event of a spill, Asher Associates, LLC will commit the manpower, equipment, and materials necessary to ensure that the clean up occurs in the shortest practical time while minimizing environmental damage and maximizing product recovery.

#### **4.10 Security**

The facilities included in this SPCC plan are located in remote areas on private and federal lands. There are no primary roads that lead to the sites; sites are accessed by dirt roads or two-track trails. Therefore access to the sites is restricted by geographical location. The only routine traffic by the sites is production workers, tank truck drivers, and ranchers.

Additional security measures that will be implemented to restrict access to oil production controls (tank and piping valves, pump start controls, etc.) will include the locking of valves or locking access to valves that could result in the release of oil or production fluids.

Access to electrical controls for pumps (well and transfer) will be restricted by keeping exterior control panels locked and control panels within buildings will be secured by locking either the panel or the building.

Lighting would not be an effective security measure due to the remote nature of the sites.

#### **4.11 State Regulatory Conformance**

The subject properties are not subject to any state regulated discharge prevention and containment requirements beyond those specified by federal regulation.

#### **4.12 Regulatory Exclusions**

The subject properties are classified as onshore production facilities which store only petroleum based oils. Furthermore, the properties are not expected to cause substantial harm to the environment as demonstrated by the completed Certification of Substantial Harm Determination form contained in Appendix D. As such, the subject properties are excluded from the following regulations:

Subpart B - Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

40 CFR 112.8                      SPCC plan requirements for onshore facilities (excluding production)

40 CFR 112.11                  SPCC Plan Requirements for offshore oil facilities

Subpart C - Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels

40 CFR 112.12                      SPCC plan requirements for onshore facilities (excluding production)

40 CFR 112.14                      SPCC plan requirements for onshore oil drilling facilities

40 CFR 112.15                      SPCC plan requirements for offshore oil drilling facilities

Subpart D - Response Requirements

40 CFR 112.20                      Facility response plans

40 CFR 112.21                      Facility response training and drills/exercises

## **5.0 INSPECTIONS, TESTING AND TRAINING**

### **5.1 Inspections and Testing (40 CFR 112.7 (e))**

Written procedures are available and will be utilized when performing prescribed inspections and testing of equipment. Records of inspections and tests are to be signed by the appropriate supervisor/inspector and maintained at the local office for a period of three years.

The following items will be inspected to minimize oil discharges from occurring:

1. Tanks for leaks and corrosion, process units for leaks and corrosion,
2. Sight glasses for leaks,
3. Pumps for leakage around packing glands,
4. Lines for leaks around fittings,
5. Flowlines for leaks,
6. Valves for leakage, and
7. Wellheads and metering stations for leakage.

If problems are identified, prompt action will be implemented.. A record of inspection is to be kept with the SPCC Plan for at least three years. A copy of the inspection form is included in Appendix E.

#### **5.1.1 Scheduled Inspections**

The contract operator, in the course of their normal routine, is responsible for inspecting the facilities covered by this SPCC Plan. This periodic review is to insure that the facilities are operating properly and that no problems exist. In addition to periodic observations made by lease personnel in their routine activities, a formal documented inspection of the facilities will be conducted on a semi-annual basis to insure that the facilities are in compliance with the SPCC Plan. Following are general procedures for conducting the formal inspections. There may be items covered in the Plan that are specific to a facility and may not be covered by these general guidelines. Conversely, certain items covered by these procedures may not apply to every facility.

The Facility Inspection Form contained in Appendix E is to be used to document the periodic inspections. The inspections are to be conducted and documented on a semi-annual basis at a minimum. The inspections records will be maintained at the appropriate field office for a period of three years.

#### **THE FOLLOWING ITEMS (if present) MUST BE INSPECTED:**

##### **Ditches and Waterways**

Drainage ditches in and around the facility and within the field, roadside ditches, water courses, ponds, etc. will be inspected for oil accumulations and/or evidence of produced water spills.

##### **Aboveground Piping**

Flowlines, injection lines, gathering lines, gas lift lines, and other piping in and around batteries, separation facilities, saltwater handling facilities, etc. will be inspected for leaks,

evidence of leaks, and evidence of potential leaks. Lines along roads will be inspected while driving through the field. Other aboveground lines will be walked periodically. Asher Associates, LLC will inspect all aboveground valves, piping, and appurtenances. During the inspection Asher Associates, LLC must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. All damaged or corroded parts will be promptly replaced.

#### Below Ground Piping

Flowlines, injection lines, gas lift lines, and other piping in and around batteries, separation facilities, produced water handling facilities, well heads, etc. will be inspected for evidence of leaks and evidence of potential leaks. Lines along roads will be inspected while driving through the field. Remote lines cannot be routinely accessed due to terrain conditions. Special attention will be afforded to portions of lines that may cross drainages or intermittent streams. All deficiencies will be promptly corrected.

#### Tanks

Except fresh water tanks, all liquid storage tanks (including crude oil, produced water, treatment chemicals, lube oil, etc.) and associated piping will be visually inspected for leaks, overflows, and signs of potential problems. Special emphasis will be placed on the inspection of foundations, bottom seams, patches, flanges, piping connections, valves, sight-glasses, and other openings. Valves should be in their proper position and locked or sealed, if required.

#### Earthen Berm Containment

Earthen berm containment will be inspected for adequate capacity, erosion, and leaks. Accumulations of liquid will be removed. If the liquid is from one of the tanks, the source will be found and repaired. Rainwater will be removed as soon as feasible after rain.

If a berm is equipped with a drain, the drain MUST be closed and locked when not in use. The drain must be manned whenever it is in use. Each drainage event must be recorded. The Stormwater Inspection Procedure and Drainage Report in Appendix E will be used for this record. The inspection records will be maintained at the appropriate field office for a period of three years.

Penetrations through the walls for piping will be inspected to ensure they are adequately sealed.

#### Line Heaters, Separators, Heater Treaters, and Glycol Units

These pieces of production equipment should be visually inspected for leaks, especially around valves, fittings, inspection plates, and sight glasses.

#### Produced Water Disposal Site (32-20)

Inspect produced water (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

#### Pits

Pits must be empty except when in use and must be kept free from oil. Any accumulation of rainwater or produced fluids must be removed from the pit and properly disposed of.



#### Pit Liquid Level

When in use, the liquid level must not be within one (1) foot of overflowing. Liquid hydrocarbons shall not accumulate in a pit.

#### Sumps, Sump Level Controls and Sump Pumps

The sump system should be checked to insure that the liquid level is acceptable and to insure that it is operating properly.

#### Drains

Drains should be inspected for blockage and accumulation of debris that would impede the free flow of liquids.

#### Chemical Storage Tanks, Pumps and Piping

Chemical injection systems should be inspected for leaks, especially around storage tanks, pumps, and fittings on tubing or piping.

#### Lube Oil Systems

Lube oil storage vessels and the piping systems should be inspected, especially around tanks, pumps, and fittings on the piping or tubing.

#### Flare System

Any liquid handling system associated with a flare system, liquid knock-outs, etc., should be inspected. The flare ignition system should be checked periodically. Any evidence of liquid carryover should be reported and corrective action to prevent reoccurrence implemented. If liquid carryovers are frequent, containment should be constructed to contain the carryover.

#### Drain Pans or Drip Pans

The liquid level in drip or drain pans should be checked and the pans emptied as necessary.

#### Pressure Relief Valves

Pressure relief valves should be checked for leaks, evidence of leaks, and signs of failure.

#### Plant Process Heaters

Plant process heaters should be checked for leaks, evidence of leaks, and signs of failure. The stack should be checked for visible smoke emissions.

#### Alarm Systems

All alarm systems should be tested periodically for proper function.

### **5.1.2 Inspections**

Comprehensive inspections of oil containing equipment may be performed as opportunities allow or when indicated during the completion of a scheduled examination. These inspections should be conducted by a qualified inspector in accordance with the standards listed below. The inspections are to be documented using the Annual Facility Inspection Form and/or the SPCC Inspection Summary, the Process Piping Inspection Form, the Pressure Vessel Inspection Form, and/or the Storage Tank Inspection Form contained in Appendix E. These records will be maintained at the appropriate field office for a period of three years. If

problems are identified, appropriate corrective actions are to be implemented and noted on the inspection form.

All inspectors should be aware of the potential for encountering hydrogen sulfide. Proper safety procedures should be followed.

Equipment	Inspection Standard
Bulk Storage Tanks	API RP 12R1 - Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks In Production Service
Pressure/Process Vessels	API RP 510 - Alternative Rules for Exploration and Production Pressure Vessels
Piping	API 574 - Inspection Practices for Piping System Components

#### **5.1.3 Integrity Testing Procedures (40 CFR 112.7 (d))**

All qualified storage containers, flow through vessels, and aboveground flow lines will be placed within adequate secondary containment. Impracticability of secondary containment is not being claimed and thus scheduled integrity testing is not required.

#### **5.1.4 Brittle Fracture Evaluation (40 CFR 112.7(i))**

One field erected (bolted steel) 500 bbl storage tank (22-21 Facility skim tank) is present without secondary containment. This tank is scheduled for immediate decommissioning and will be taken out of service. Two additional field erected (bolted steel) 500 bbl tanks are present within secondary containment and are used for the storage of crude oil at the 22-21 Facility. If either one of these tanks requires repair, alteration, or change in service, the tank will be evaluated in accordance with the latest edition of API-653. Evidence of the evaluation will be documented and records retained in accordance with the SPCC Plan. If the subject tank is not evaluated in accordance with 40 CFR 112.7(i), it will be taken out of service and permanently closed.

#### **5.1.5 Personnel Training and Discharge Prevention Procedures (40 CFR 112.7 (f))**

Company and contract personnel will attend in-house compliance awareness programs on a periodic basis. Compliance training sessions will be conducted at least once per year to assure continued understanding of the applicable SPCC plans. Newly hired employees will receive the equivalent of the annual training session before working alone in the field. In addition, spill related topics will be discussed at safety meetings. Safety meeting topics include: spill control equipment; equipment operation and maintenance; inspection of containment structures, vessels, tanks and piping; spill response, containment, and clean up; company policies on reporting and responding to spills; and specific SPCC Plans. Training will be documented using the Training Record Form provided in Appendix F, and records of training will be maintained for a period of three years.

Personnel will be properly instructed in the following:

1. Proper operation and maintenance of equipment to prevent oil discharges,
2. Discharge procedure protocols,
3. Applicable oil spill prevention laws, rules and regulations,
4. General facility operations, and
5. The contents of facility SPCC plans and applicable pollution control laws, rules, and regulations.

For the subject facilities, the designated person accountable for oil discharge prevention is:

Name: Jerry Moorehead

Title: Contract Operator, Lance Creek Enterprises

Scheduled prevention briefings for the operating personnel will be conducted on a periodic basis to assure adequate understanding of the SPCC Plan. The briefing program is as follows:

A SPCC compliance awareness program is presented on an annual basis. The program includes a review of specific SPCC Plans, updates on state and federal regulations, company policy and procedures, and spill reporting.

Additional short briefing sessions will be held as needed before and during certain jobs to review spill potential, necessary precautions, and appropriate responses. Also included in the briefing is a review of known spill events or failures, malfunctioning components, and recently developed precautionary measures.

Contractors working at the facilities will be instructed as follows:

1. Pollution control will be maintained at all times in connection with all operations by the contractor. Asher Associates, LLC personnel will be notified immediately of any emitting, spilling, venting, discharging, disposal, or loss of any hazardous or harmful substances, air contaminants and/or pollutants of any nature (referred to as discharges).
2. If any discharges occur as a result of the performance of work by the contractor, its agents, employees, and subcontractors, or other persons for whom the contractor is responsible, the contractor will immediately proceed to stop or abate such discharges.
3. The contractor will comply with any and all local, state and federal laws, regulations, standards and orders applicable to the controlling and prevention of discharges.
4. Contractors will install and maintain adequate discharge control equipment on or about their plant, rig, or other equipment to prevent discharges in violation of any local, state and federal laws, regulations, standards, and orders.

## **6.0 DRILLING AND WORKOVER OPERATIONS (40 CFR 112.10)**

Asher Associates, LLC is committed to preventing releases during drilling and workover operations. All drilling and workover contractors operating on company leases must have a written SPCC plan for their operations as required by 40 CFR 112.3(c). The contractor's plans must be implemented before operations are initiated. At a minimum, the SPCC plans must comply with the general requirements of 40 CFR 112.7 and specifically address the following:

1. Drilling and workover equipment is to be positioned or located so as to prevent spilled oil, fuel, or oily drilling fluids from reaching navigable waters whenever possible. If necessary, the use of catchment basins or diversion structures will be implemented.
2. A blowout preventer (BOP) assembly and well control system is to be installed before drilling below any casing string and as required during workover operations.
3. The BOP assembly will be capable of controlling any expected wellhead pressure.
4. Casing and BOP installations will conform to industry standards and state regulations.



# **A p p e n d i x A**

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**Contact Lists, Telephone Numbers  
Release Notification Form and  
Qualified Discharge Report**

**EMERGENCY CONTACT LIST**  
**Asher Associates Bright and Beaver Hole Fields**

<b>Asher Associates Call List</b>	
Raiford Patton, Vice President	
Cell:	303-521-0056
Office:	303-721-6333
Jerry Moorehead, Contract Operator	
Cell:	307-216-0524
Home:	307-334-3264
<b>Government Agencies (Spill Reporting)</b>	
EPA/National Response Center	
1-800-424-8802	
Wyoming Oil & Gas Commission	
307-234-7174 (8 am to 5 pm, Mon.-Fri.)	
Wyoming Department of Environmental Quality	
307-777-7781 (24 hrs/day, 7 days/week)	
Bureau of Land Management	
307-746-6600 (Newcastle Field Office)	
<b>Emergency Response Contact</b>	
Tetra Tech - Casper, Wyoming	
Office:	307-234-2126

## **SPILL REPORTING REQUIREMENTS SUMMARY**

### **Environmental Protection Agency (EPA) via National Response Center (NRC)**

EPA has established requirements to report spills to navigable waters or adjoining shorelines. EPA has determined that discharges of oil in quantities that may be harmful to public health or the environment include those that:

Violate applicable water quality standards;  
Cause a film or "sheen" upon, or discoloration of the surface of the water or adjoining shorelines; or  
Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

Any person in charge of a vessel or an onshore facility must notify NRC immediately after he or she has knowledge of the discharge. The NRC will need the following information:

NRC will ask a caller to provide as much information about the incident as possible including:

Name, organization, and telephone number  
Name and address of the party responsible for the incident  
Date and time of the incident  
Location of the incident  
Source and cause of the discharge  
Types of material(s) discharged  
Quantity of materials discharged  
Danger or threat posed by the discharge  
Number and types of injuries (if any)  
Weather conditions at the incident location  
Other information to help emergency personnel respond to the incident

### **Wyoming Department of Environmental Quality (WYDEQ)**

Pursuant to Chapter 4 of the WWQRR the following spills/releases are reportable to the DEQ within 24 hours.

- 1) Releases of "oil" and "hazardous substances" which enter waters of the state.
- 2) Releases that are determined to be a threat to enter waters of the state and are; a) considered a "hazardous substance", or b) an amount greater than either 10 barrels of any combination of crude oil/ petroleum condensate/ produced water **or** 25 gallons of refined crude oil products.

Please note that non-reportable spill events are still required to be addressed immediately by containing, removing and disposing of the released product according to DEQ regulations.

## **Wyoming Oil and Gas Conservation Commission (WYOGCC)**

- Less than 10 bbls (total fluids [includes produced water]) requires a written report to be submitted within fifteen days; no verbal report required.
- Greater than 10 bbls (total fluids) requires verbal notification within 24 hours followed by a written report within 15 days.

The WYOGCC report form is included later in this section.

## **Bureau of Land Management (BLM)**

### **Major Undesirable Events Requiring Immediate Notification**

Major undesirable events are defined as those incidents listed below in subsections A. through F. These incidents, when occurring on a lease supervised by the BLM, must be reported as soon as practical but within a maximum of 24 hours:

- A. Oil, saltwater, and toxic liquid spills, or any combination thereof, that result in the discharge (spilling) of 100 or more barrels of liquid; however, discharges of such magnitude, if entirely contained within the facility firewall, may be reported in writing pursuant to Section III of this Notice;
- B. Equipment failures or other accidents that result in the venting of 500 or more MCF of gas;
- C. Any fire which consumes the volumes as specified in I.A. and I.B. above;
- D. Any spill, venting, or fire, regardless of the volume involved, that occurs in a sensitive area, such as parks, recreation sites, wildlife refuges, lakes, reservoirs, streams, and urban or suburban area;
- E. Each accident that involves a fatal injury; and
- F. Every blowout (loss of control of any well) that occurs.

### **Other-Than-Major Undesirable Events**

Other-than-major undesirable events, as identified below in subsections A. through D. do not have to be reported orally within 24 hours; however, a written report, as required for major undesirable events in Section II of this Notice, must be provided for the following incidents:

- A. Oil, saltwater, and toxic liquid spills, or any combination thereof, that result in the discharge (spilling) of at least 10 but less than 100 barrels of liquid in nonsensitive areas, and all discharges of 100 or more barrels when the spill is entirely contained by the facility firewall;
- B. Equipment failures or other accidents that result in the venting of at least 50 but less than 500 MCF of gas in non-sensitive areas;
- C. Any fire that consumes volumes in the ranges specified in III.A. and III.B., above; and
- D. Each accident involving a major or life threatening injury. Spills or discharges in non-sensitive areas involving less than 10 barrels of liquid or 50 MCF of gas do not require an oral or written report; however, the volumes discharged or vented as a result of all such minor incidents must be reported in accordance with Section V. hereof.

A BLM reporting form is included later in this section.



STATE OF WYOMING  
OIL AND GAS CONSERVATION COMMISSION  
P.O. BOX 2640  
CASPER, WYOMING 82602

API #: \_\_\_\_\_

INCIDENT REPORT

REPORTING DATE: \_\_\_\_\_ DATE OF INCIDENT: \_\_\_\_\_  
REPORTING TIME: \_\_\_\_\_ TIME OF INCIDENT: \_\_\_\_\_  
TIME DISCOVERED: \_\_\_\_\_ TIME CONTROLLED: \_\_\_\_\_

NAME OF REPORTING COMPANY: \_\_\_\_\_  
NAME OF PERSON REPORTING: \_\_\_\_\_  
COMPANY ADDRESS: \_\_\_\_\_  
PHONE NUMBER: \_\_\_\_\_  
Legal Location: \_\_\_\_\_ /4 \_\_\_\_\_ /4 Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ N, Rge: \_\_\_\_\_ W  
County: \_\_\_\_\_  
Well Name/ Field Name/ Facility Name: \_\_\_\_\_  
Lease Number/ Surface Owner: \_\_\_\_\_  
Mineral Number: \_\_\_\_\_

Description & Extent Of Spill: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Spill Cause: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Action Taken To Clean- up: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Action Taken To Prevent Reoccurrence: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Spill In Or Within 500 Ft. Of Live Water? \_\_\_\_\_ Yes \_\_\_\_\_ No Where? \_\_\_\_\_

VOLUMES:	DISCHARGED:	RECOVERED:
_____	CRUDE OIL	_____ CRUDE OIL
_____	WATER	_____ WATER
_____	OTHER	_____ OTHER

Other Agencies Notified: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Report Taken By: \_\_\_\_\_ Computer Date: \_\_\_\_\_

## Discharge Notification Data

### Part A: Discharge Information

General information when reporting a spill to outside authorities:

Name: \_\_\_\_\_

Address:

Telephone:

Owner/Operator:

Primary Contact:

È  
È  
È

Work: ( \_\_\_\_\_ )

Cell (24 hrs): ( \_\_\_\_\_ )

Type of oil:

Discharge Date and Time:

Quantity released:

Discovery Date and Time:

Quantity released to a waterbody:

Discharge Duration:

Location/Source:

Actions taken to stop, remove, and mitigate impacts of the discharge:

Affected media:

☐ air

☐ water

☐ soil

☐ storm water sewer/POTW

☐ dike/berm/oil-water separator

☐ other: \_\_\_\_\_

Notification person:

Telephone contact:

Business:

24-hr:

Nature of discharges, environmental/health effects, and damages:

Injuries, fatalities or evacuation required?

### Part B: Notification Checklist

	Date and time	Name of person receiving call
<b>Discharge in any amount</b>		
.Raiford Patton .Asher Associates, Vice President (303 ) 521 - 0056		

**BUREAU OF LAND MANAGEMENT**  
**WO MAJOR UNDESIRABLE EVENT (MUE) REPORTING FORMAT**

BLM Office Reporting:						
BLM Employee:						
Company Official Reporting to BLM:						
Operator:						
Date/Time of Occurrence:				Date/Time BLM Notified:		
Field/Unit Name:				Lease Number:		
State:	County:	Twn:	Rng:	Sec:	Qtr:	
Surface Ownership: (circle one)		Federal	Indian	State	FEE	
Type of Event: (circle one)	Oil Spill		Oil/Water Spill	Gas Venting	Toxic Fluid Spill	
	Saltwater Spill		Other Spill (Specify)	Blowout	Fire	
	Injury		Fatality	Property Damage	Explosion	
Nature and Cause of Event:						
Environmental Impact:						
Time Required to Control Event (Hours):						
Volumes Discharged or Consumed:						
Volumes Recovered:						
Action Taken to Control Event:						
Resultant Damage:						
Clean-Up Procedures:						
Cause/Extent of Personal Injury:						
Agency Notification List: (Federal/State/Local):	Agency Name		Contact Name		Date/Time	
Remarks:						



## **A p p e n d i x B**

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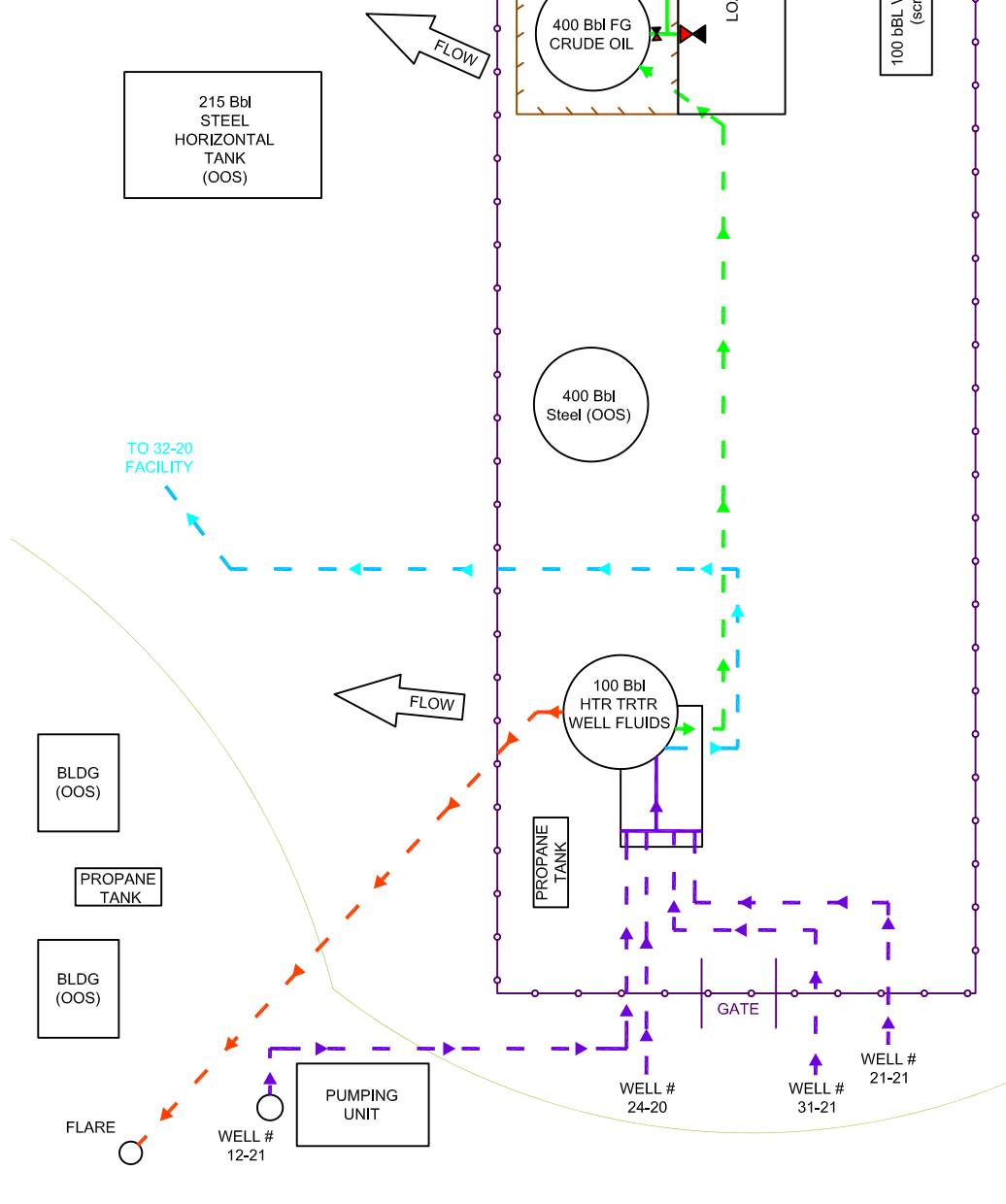
**Location Map, Site Maps and  
Site Specific Information**

# BEAVER HOLE FACILITY SW/NE SEC 21, T37N, R63W

## LEGEND:

- FENCE
- ROADS
- SOUR GAS
- PRODUCED WATER
- WELL FLUIDS
- OIL
- DIKE
- VALVE-CLOSED FOR PRODUCTION, OPEN FOR SALE
- INDICATES OUT OF SERVICE

OOS



NOT TO SCALE

Project Number: 114-510228

January 2010



**Figure 1**  
**BEAVER HOLE FACILITY**  
**Beaver Hole and Bright Fields - SPCC - Niobrara County, Wyoming**

# Asher Associates SPCC Plan

## Field Inspection Documentation and Secondary Containment Calculations

Facility Visit Date	12/3/2009				
Well Name/Battery Name	Beaver Hole Facility				
Battery GPS Location (North, West)	43.17128	104.43585			
Location (S, T, R)	SW/NE Section 21, T37N, R63W, Niobrara County, Wyoming				
Facility Site Map	Attached				
Number and Type of Vessels at Facility					
Type of Vessel	# of Vessels Inside of Containment	# of Vessels Outside of Containment	Total Number of Vessels	Containment #	
Wellhouse			0		
Produced Water Storage Tanks	0	0	0		
Crude Oil Storage Tanks	2	0	2	1	
Heater Treater	0	1	1	None	
Fuel Tanks	0	0	0		
55 gallon drums	0	0	0		
Ponds	0	0	0		
Other	0	0	0		
Total # Tanks (Crude Oil, Produced Water & Fuel) and Heater Treaters			3		
Vessel Volume Calculations					
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Crude Oil	37.5	20.0	398.6
1	2	Crude Oil	37.5	20.0	398.6
	3 (HT)	Well Fluids	18.9	20.0	101.3
					0.0
					0.0
					0.0
Total Volume of Vessels in Containment (barrels)					898.4
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Crude Oil	37.5	20.0	398.6
1	2	Crude Oil	37.5	20.0	398.6
	3	Well Fluids	18.9	20.0	101.3
					0.0
					0.0
					0.0
Total Volume of Vessels in Containment (barrels)					898.4
Containment Measurements					
Containment #	L	W	D	Total Volume (barrels)	Net Available Volume (barrels)
1	33.0	30.0	1.5	264.5	264.5
Containment Sufficiency Calculations					
Containment #	Total Volume (barrels)	Net Available Volume (barrels)	Volume of Largest Vessel (barrels)	Sufficient Containment?	
1	264.5	264.5	398.6	NO	

**Asher Associates Bright & Beaverhole Field SPCC Plan  
Site Specific Spill Planning, Countermeasures and Control Information**

**Operator:** Asher Associates  
**Name of Facility:** Beaver Hole Facility  
**Location:** SW/NE Section 21, T37N, R63W, Niobrara County, Wyoming

Wells: 11-21, 12-21, 21-21 and 31-21.

Potentially Affected Surface Waters	Distance and Direction from Facility
Unnamed intermittent stream to Buck Creek.	950 feet W-SW

Potential Source	What Stored?	Stored Quantity	Predicted Flow Direction	Discharge Prevention Measure
Tank Farm	Crude Oil	2 x 400 bbls	S-SW	Earthen Berm
Heater Treater	Produced Water/Oil	0	S-SW	None

The average oil process rate for this facility is 19 barrels per day. Container capacity is adequate to assure that a container will not overflow if a pumper is delayed in making scheduled rounds.

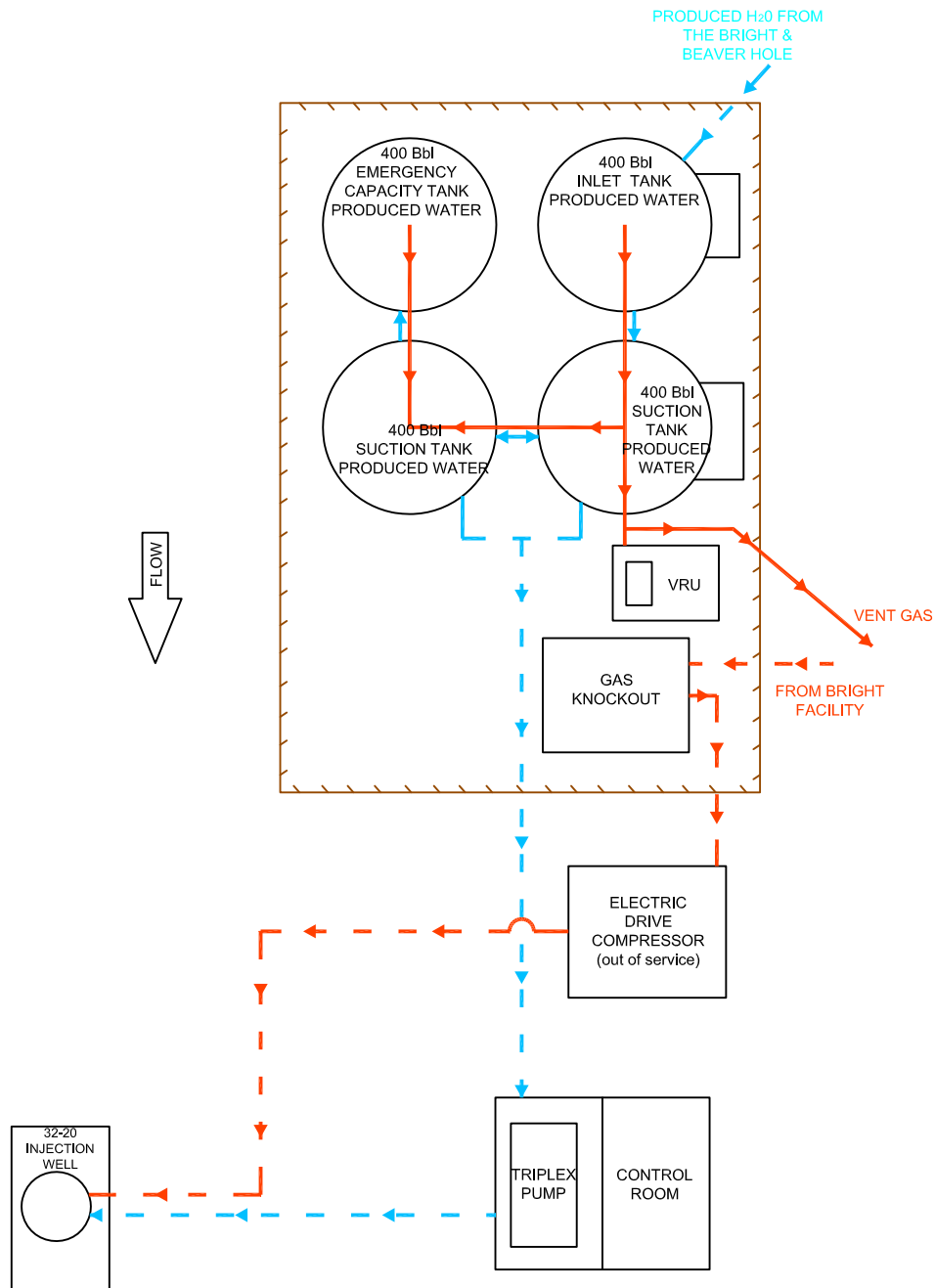
The material and construction of bulk storage containers are compatible with the materials stored and the conditions of storage such as pressure and temperature.

Visible discharges which result in a loss of product from containers will be promptly corrected, and any accumulations of oil in the diked areas will be promptly removed.

# 32-20 INJECTION FACILITY SW/NE SEC. 20, T37N, R63W

## LEGEND:

- SOUR GAS
- PRODUCED WATER
- DIKE



510228 Figs.dwg (32-20 layout) ^ 1-07-10 ^ MAT

Project Number: 114-510228

January 2010



**Figure 2**  
**32-20 INJECTION FACILITY**  
**Beaver Hole and Bright Fields - SPCC - Niobrara County, Wyoming**



# Asher Associates SPCC Plan

## Field Inspection Documentation and Secondary Containment Calculations

Facility Visit Date	12/3/2009	
Well Name/Battery Name	32-20 Injection	
Battery GPS Location (North, West)	43.17186	104.44581
Location (S, T, R)	SW/NE Section 20, T37N, R63W, Niobrara County, Wyoming	
Facility Site Map	Attached	

Number and Type of Vessels at Facility				
Type of Vessel	# of Vessels Inside of Containment	# of Vessels Outside of Containment	Total Number of Vessels	Containment #
Wellhouse			0	
Produced Water Storage Tanks	4	0	4	1
Crude Oil Storage Tanks	0	0	0	
Heater Treater	0	0	0	
Fuel Tanks	0	0	0	
55 gallon drums	0	0	0	
Ponds	0	0	0	
Triplex Pump	0	1	1	None
Total # Tanks (Crude Oil, Produced Water & Fuel) and Heater Treaters			4	

Vessel Volume Calculations					
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Produced Water	37.5	20.0	398.6
1	2	Produced Water	37.5	20.0	398.6
1	3	Produced Water	37.5	20.0	398.6
1	4	Produced Water	37.5	20.0	398.6
1	5				0.0
	6				0.0
Total Volume of Vessels in Containment (barrels)					1594.4
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Produced Water	37.5	20.0	398.6
1	2	Produced Water	37.5	20.0	398.6
1	3	Produced Water	37.5	20.0	398.6
1	4	Produced Water	37.5	20.0	398.6
1	5				
Total Volume of Vessels in Containment (barrels)					1594.4

Containment Measurements					
Containment #	L	W	D	Total Volume (barrels)	Net Available Volume (barrels)
1	43.0	42.0	0.5	160.8	160.8

Containment Sufficiency Calculations				
Containment #	Total Volume (barrels)	Net Available Volume (barrels)	Volume of Largest Vessel (barrels)	Sufficient Containment?
1	160.8	160.8	398.6	NO

**Asher Associates Bright & Beaverhole Field SPCC Plan  
Site Specific Spill Planning, Countermeasures and Control Information**

**Operator:** Asher Associates  
**Name of Facility:** 32-20 Injection  
**Location:** SW/NE Section 20, T37N, R63W, Niobrara County, Wyoming

Receives produced water from Beaver Hole Facility for injection.

Potentially Affected Surface Waters	Distance and Direction from Facility
Unnamed intermittent stream to Peddy Draw to Buck Creek.	280 feet S-SW

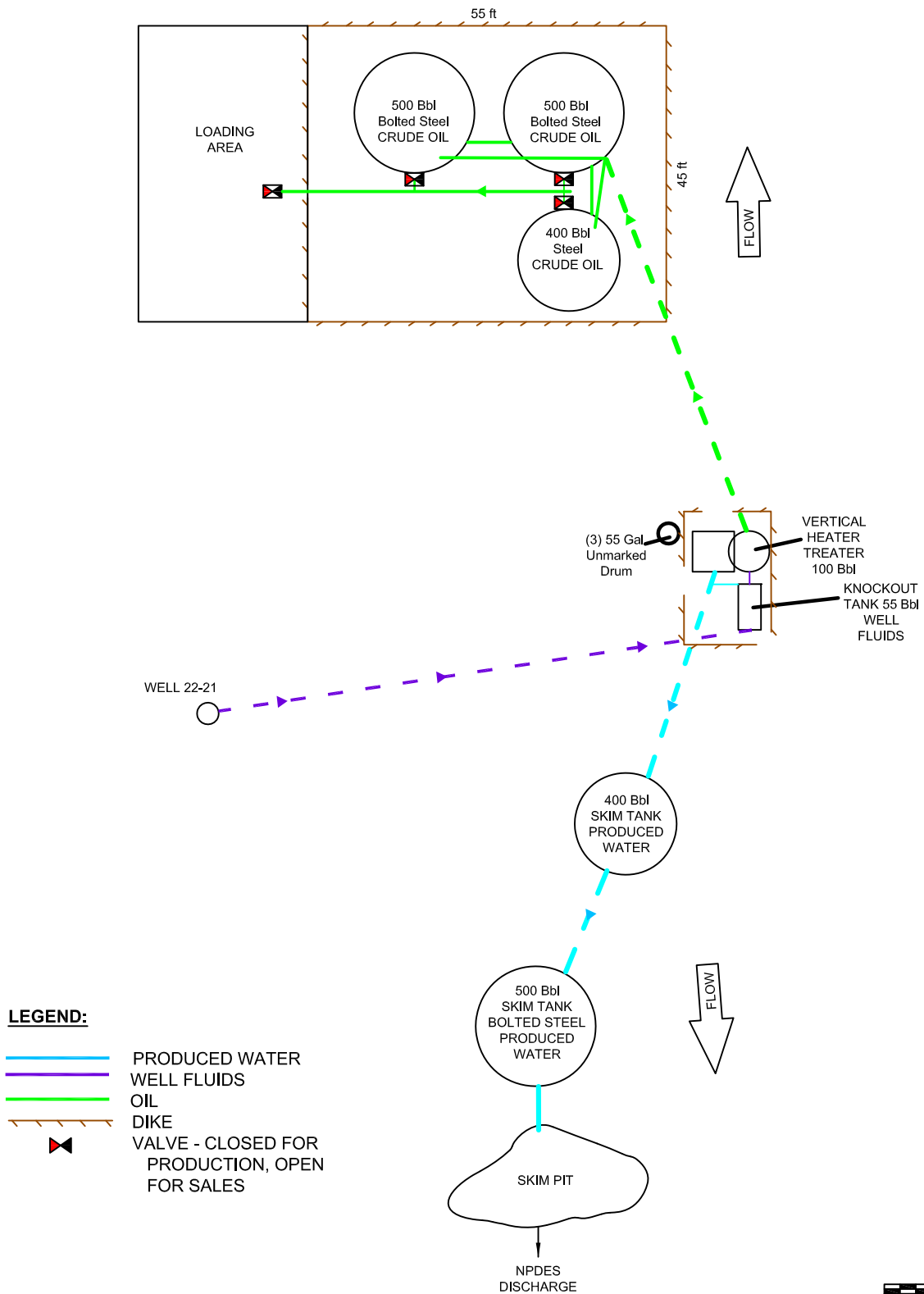
Potential Source	What Stored?	Stored Quantity	Predicted Flow Direction	Discharge Prevention Measure
Tank Farms	Produced Water	4 x 400 bbls	S-SW	Earthen Berm
Triplex Pump	Produced Water	0	S-SW	None

The average process (injection) rate for this facility is 500 barrels per day produced water. Container capacity is adequate to assure that a container will not overfill if a pumper is delayed in making scheduled rounds.

The material and construction of bulk storage containers are compatible with the materials stored and the conditions of storage such as pressure and temperature.

Visible discharges which result in a loss of product from containers will be promptly corrected, and any accumulations of oil in the diked areas will be promptly removed.

# **WELL 22-21 FACILITY** **SE/NW SEC. 21, T37N, R63W**



510228 Figs.dwg (22-21 layout) ^ 2-05-10 MAT

Project Number: 114-510228

January 2010



**Figure 3**  
**WELL 22-21 FACILITY**  
**Beaver Hole and Bright Fields - SPCC - Niobrara County, Wyoming**

# Asher Associates SPCC Plan

## Field Inspection Documentation and Secondary Containment Calculations

Facility Visit Date	12/3/2009	
Well Name/Battery Name	22-21 Facility	
Battery GPS Location (North, West)	43.16963	104.43256
Location (S, T, R)	SE/NW Section 21, T37N, R63W, Niobrara County, Wyoming	
Facility Site Map	Attached	

Number and Type of Vessels at Facility				
Type of Vessel	# of Vessels Inside of Containment	# of Vessels Outside of Containment	Total Number of Vessels	Containment #
Wellhouse			0	
Produced Water Storage Tanks	0	2	2	None
Crude Oil Storage Tanks	3	0	3	1
Heater Treater	0	1	1	None
FWKO	0	1	1	None
55 gallon drums	0	3	3	None
Ponds	0	0	0	
Other	0	0	0	
Total # Tanks (Crude Oil, Produced Water & Fuel) and Heater Treaters			7	

Vessel Volume Calculations					
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Crude Oil	42.0	20.0	500.0
1	2	Crude Oil	42.0	20.0	500.0
1	3	Crude Oil	37.5	20.0	398.6
	4	Produced Water	37.5	20.0	398.6
	5	Produced Water	42.0	20.0	500.0
	6	Well Fluids (Trtr)	18.9	20.0	101.3
	7	Well Fluids (FWKO)	18.9	11.0	55.7

Total Volume of Vessels in Containment (barrels)					2454.1
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Crude Oil	42.0	20.0	500.0
1	2	Crude Oil	42.0	20.0	500.0
1	3	Crude Oil	37.5	20.0	398.6
Total Volume of Vessels in Containment (barrels)					1398.6

Containment Measurements					
Containment #	L	W	D	Total Volume (barrels)	Net Available Volume (barrels)
1	55.0	45.0	1.5	661.2	661.2
2					

Containment Sufficiency Calculations				
Containment #	Total Volume (barrels)	Net Available Volume (barrels)	Volume of Largest Vessel (barrels)	Sufficient Containment?
1	661.2	661.2	500.0	YES

**Asher Associates Bright & Beaverhole Field SPCC Plan  
Site Specific Spill Planning, Countermeasures and Control Information**

**Operator:** Asher Associates  
**Name of Facility:** 22-21 Facility  
**Location:** SE/NW Section 21, T37N, R63W, Niobrara County, Wyoming

The only wells which supply this battery are 22-21 and 24-20.

Potentially Affected Surface Waters	Distance and Direction from Facility
Unnamed intermittent stream to Buck Creek.	1075 feet S

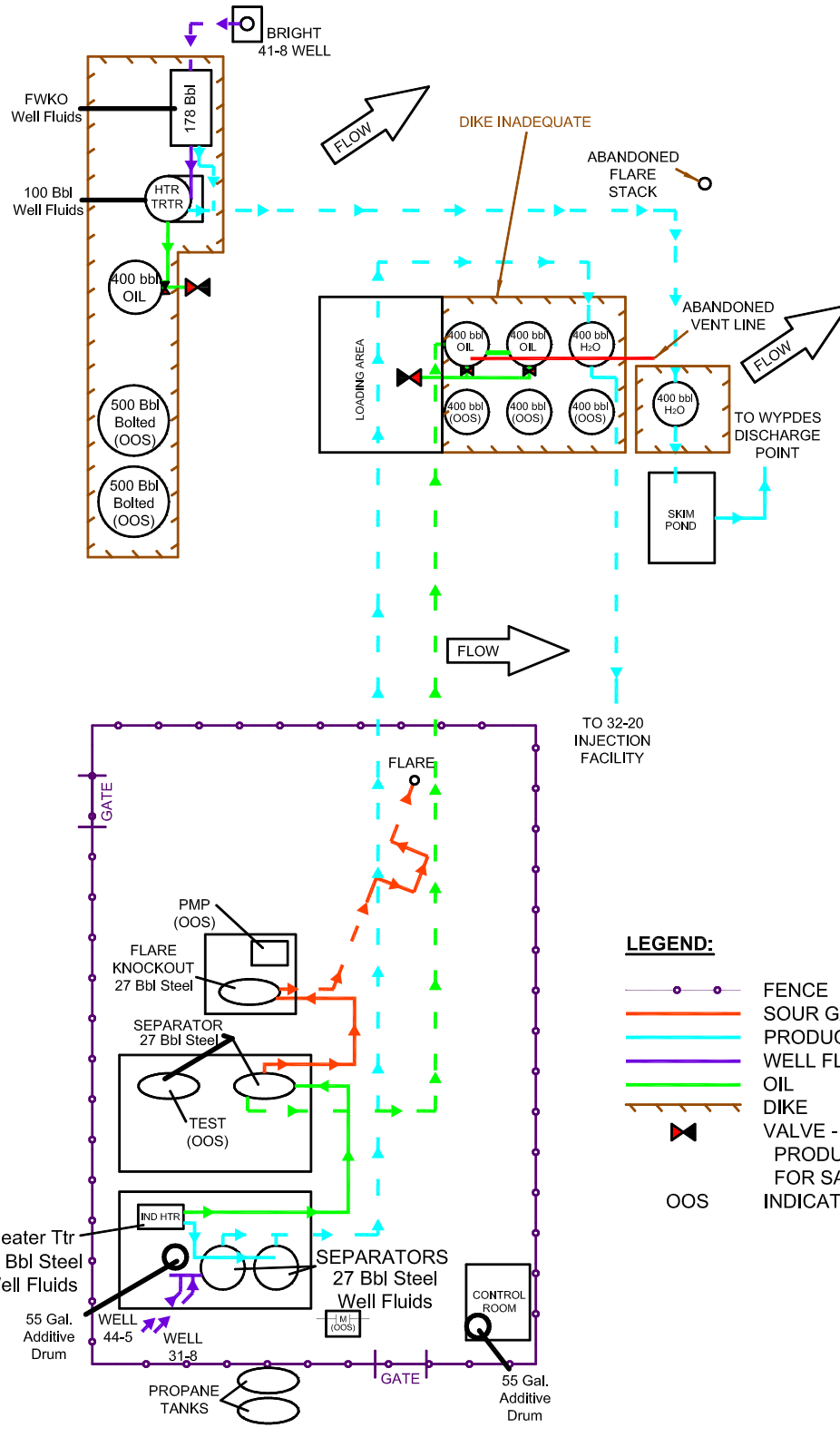
Potential Source	What Stored?	Stored Quantity	Predicted Flow Direction	Discharge Prevention Measure
Tank Farm	Crude Oil	1,400 bbls	S	Earthen Berm
Heater Treater	Produced Water/Oil	0	S	None

The average oil process rate for this facility is 6 barrels per day. Container capacity is adequate to assure that a container will not overfill if a pumper is delayed in making scheduled rounds.

The material and construction of bulk storage containers are compatible with the materials stored and the conditions of storage such as pressure and temperature.

Visible discharges which result in a loss of product from containers will be promptly corrected, and any accumulations of oil in the diked areas will be promptly removed.

# **TANK FARM EAST / WELL 41-8 FACILITY** **NE/NE SEC. 8, T37N, R63W**



510228 Figs.dwg (41-8 layout) ^ 2-09-10 ^ MAT

Project Number: 114-510228

January 2010



**Figure 4**  
**BRIGHT FACILITY**  
**Beaver Hole and Bright Fields - SPCC - Niobrara County, Wyoming**

# Asher Associates SPCC Plan

## Field Inspection Documentation and Secondary Containment Calculations

Facility Visit Date	12/3/2009	
Well Name/Battery Name	Bright - Tank Farm East - Satellite	
Battery GPS Location (North, West)	43.20201	104.4412
Location (S, T, R)	NE/NE Section 8, T37N, R63W, Niobrara County, Wyoming	
Facility Site Map	Attached	

### Number and Type of Vessels at Facility

Type of Vessel	# of Vessels Inside of Containment	# of Vessels Outside of Containment	Total Number of Vessels	Containment #
Produced Water Storage Tanks	1	0	1	1
Crude Oil Storage Tanks	2	0	2	1
Heater Treater	0	1	1	None
Separator 1	0	1	1	None
Separator 2	0	1	1	None
Separator 3	0	1	1	None
Flare Knockout	0	1	1	None
55 gallon drums	0	2	2	None
Total # Tanks (Crude Oil, Produced Water & Fuel) and Heater Treaters			10	

### Vessel Volume Calculations

Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Crude Oil	37.5	20.0	398.6
1	2	Crude Oil	37.5	20.0	398.6
1	3	Produced Water	37.5	20.0	398.6
	Separator 1	Well Fluids	12.7	11.0	25.1
	Separator 2	Well Fluids	12.7	11.0	25.1
	Heater Treater	Well Fluids	12.7	16.0	36.6
	Separator 3	Well Fluids	12.7	11.0	25.1
	Flare Knockout	Well Fluids	12.7	11.0	25.1

### Total Volume of Vessels in Containment (barrels)

1332.9

Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
1	1	Crude Oil	37.5	20.0	398.6
1	2	Crude Oil	37.5	20.0	398.6
1	3	Produced Water	37.5	20.0	398.6

### Total Volume of Vessels in Containment (barrels)

1195.8

### Containment Measurements

Containment #	L	W	D	Total Volume (barrels)	Net Available Volume (barrels)
1	58.0	43.0	1.0	444.2	444.2
					0.0

### Containment Sufficiency Calculations

Containment #	Total Volume (barrels)	Net Available Volume (barrels)	Volume of Largest Vessel (barrels)	Sufficient Containment?
1	444.2	444.2	398.6	YES

# Asher Associates SPCC Plan

## Field Inspection Documentation and Secondary Containment Calculations

Facility Visit Date	12/3/2009				
Well Name/Battery Name	Bright - 41-8				
Battery GPS Location (North, West)	43.20201	104.4412			
Location (S, T, R)	NE/NE Section 8, T37N, R63W, Niobrara County, Wyoming				
Facility Site Map	Attached				
Number and Type of Vessels at Facility					
Type of Vessel	# of Vessels Inside of Containment	# of Vessels Outside of Containment	Total Number of Vessels	Containment #	
Produced Water Storage Tanks	1	0	1	3	
Crude Oil Storage Tanks	1	0	1	2	
Heater Treater	1	0	1	2	
FWKO	1	0	1	2	
Total # Tanks (Crude Oil, Produced Water & Fuel) and Heater Treaters			4		
Vessel Volume Calculations					
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
3	1	Produced Water	37.5	20.0	398.6
2	2	Crude Oil	37.5	20.0	398.6
2	Heater Treater	Well Fluids	18.9	20.0	101.3
2	FWKO	Well Fluids	25.1	20.0	178.6
Total Volume of Vessels in Containment (barrels)					1077.0
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
3	1	Produced Water	37.5	20.0	398.6
2	2	Crude Oil	37.5	20.0	398.6
2	Heater Treater	Well Fluids	18.9	20.0	101.3
2	FWKO	Well Fluids	25.1	20.0	178.6
Total Volume of Vessels in Containment (barrels)					1077.0
Containment Measurements					
Containment #	L	W	D	Total Volume (barrels)	Net Available Volume (barrels)
2	100.0	40.0	1.5	1068.6	1068.6
3	45.0	40.0	1.5	480.9	480.9
Containment Sufficiency Calculations					
Containment #	Total Volume (barrels)	Net Available Volume (barrels)	Volume of Largest Vessel (barrels)	Sufficient Containment?	
2	1068.6	1068.6	398.6	YES	
3	480.9	480.9	398.6	YES	



**Asher Associates Bright & Beaverhole Field SPCC Plan  
Site Specific Spill Planning, Countermeasures and Control Information**

**Operator:** Asher Associates  
**Name of Facility:** Bright - Tank Farm East - Satellite  
**Location:** NE/NE Section 8, T37N, R63W, Niobrara County, Wyoming

The wells which supply this battery are 41-8, 31-8 and 44-5.

Potentially Affected Surface Waters	Distance and Direction from Facility
Unnamed intermittent stream to Buck Creek.	300 feet NE

Potential Source	What Stored?	Stored Quantity	Predicted Flow Direction	Discharge Prevention Measure
Tank Farms	Crude & Water	5 x 400 bbls	Northeast	Earthen Berm
Separators	Crude & water	5 x 5 bbls	East-Northeast	None

The average oil process rate for this facility is 33 barrels per day. Container capacity is adequate to assure that a container will not overfill if a pumper is delayed in making scheduled rounds.

The material and construction of bulk storage containers are compatible with the materials stored and the conditions of storage such as pressure and temperature.

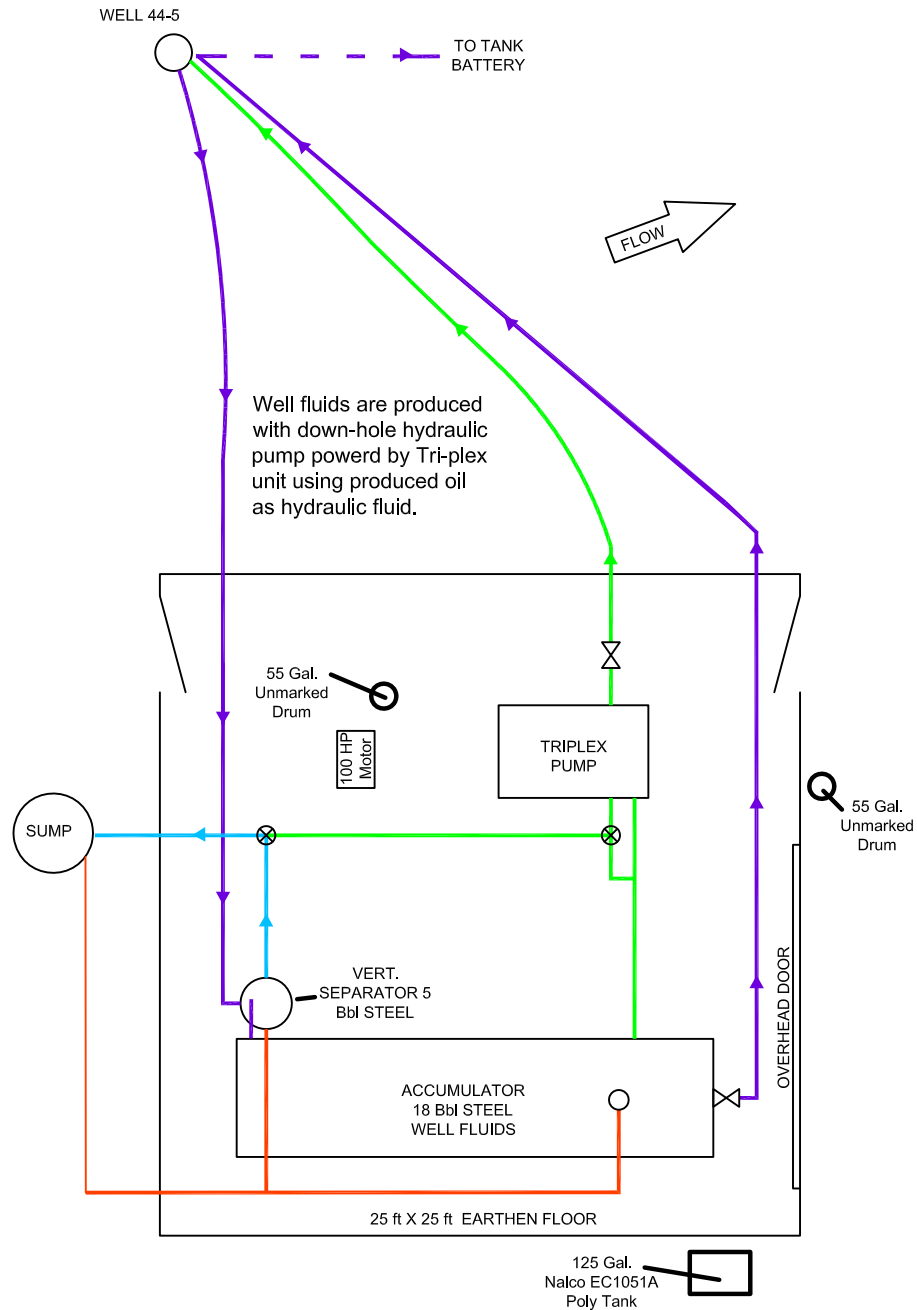
Where practicable, bulk storage containers installations are constructed so that a means of secondary containment is provided for the entire capacity of the largest single container plus sufficient freeboard to contain precipitation from the 100-year, 24-hour storm event of 4.2 inches. Storage containers for which secondary containment is not practicable are discussed in Section 2.1. Diked areas are sufficiently impervious to contain discharged oil. When present, mobile or portable oil storage containers, including drums, are stored within diked areas.

Visible discharges which result in a loss of product from containers will be promptly corrected, and any accumulations of oil in the diked areas will be promptly removed.

# WELL 44-5 FACILITY SE/SE SEC. 5, T37N, R63W

## LEGEND:

- SOUR GAS
- PRODUCED WATER
- WELL FLUIDS
- OIL



NOT TO SCALE

510228 Figs.dwg (44-5 layout) ^ 1-07-10 ^ MAT

Project Number: 114-510228

January 2010



**Figure 5**  
**WELL 44-5 FACILITY**  
**Beaver Hole and Bright Fields - SPCC - Niobrara County, Wyoming**

# Asher Associates SPCC Plan

## Field Inspection Documentation and Secondary Containment Calculations

Facility Visit Date	12/3/2009				
Well Name/Battery Name	44-5				
Battery GPS Location (North, West)	43.2062	104.4417			
Location (S, T, R)	SE/SE Section 5, T37N, R63W, Niobrara County, Wyoming				
Facility Site Map	Attached				
Number and Type of Vessels at Facility					
Type of Vessel	# of Vessels Inside of Containment	# of Vessels Outside of Containment	Total Number of Vessels	Containment #	
Wellhouse			0		
Produced Water Storage Tanks	0	0	0		
Crude Oil Storage Tanks	0	0	0		
Accumulator	0	1	1	None	
Separator	0	1	1	None	
55 gallon drums	0	0	0		
Ponds	0	0	0		
Nalco EC1051A	0	1	1	None	
Total # Tanks (Crude Oil, Produced Water & Fuel) and Heater Treaters			3		
Vessel Volume Calculations					
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
	1	Well Fluids (Accum)	11.0	11.0	18.9
	2	Well Fluids (Vsep)	7.0	7.5	5.2
	3	Nalco EC1051A			2.9
Total Volume of Vessels in Containment (barrels)					27.0
Containment #	Tank #	Contents	Circumference (feet)	Height (feet)	Volume (barrels)
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
Total Volume of Vessels in Containment (barrels)					0.0
Containment Measurements					
Containment #	L	W	D	Total Volume (barrels)	Net Available Volume (barrels)
				0.0	0.0
				0.0	0.0
Containment Sufficiency Calculations					
Containment #	Total Volume (barrels)	Net Available Volume (barrels)	Volume of Largest Vessel (barrels)	Sufficient Containment?	
	0.0	0.0	18.9	NO	

**Asher Associates Bright & Beaverhole Field SPCC Plan  
Site Specific Spill Planning, Countermeasures and Control Information**

**Operator:** Asher Associates  
**Name of Facility:** Well 44-5  
**Location:** SE/SE Section 5, T37N, R63W, Niobrara County, Wyoming

Flow through vessels only for triplex pump operation. Produced fluids piped to Bright Facility.

Potentially Affected Surface Waters	Distance and Direction from Facility
Buck Creek	775 ft East

Potential Source	What Stored?	Stored Quantity	Predicted Flow Direction	Discharge Prevention Measure
Accumulator	Crude & Water	1 x 18.9 bbls	East	None
Separator	Crude & water	1 x 5.2 bbls	East	None

The average oil process rate for this well is 12 barrels per day. Container capacity is adequate to assure that a container will not overfill if a pumper is delayed in making scheduled rounds.

The material and construction of bulk storage containers are compatible with the materials stored and the conditions of storage such as pressure and temperature.

Visible discharges which result in a loss of product from containers will be promptly corrected, and any accumulations of oil in the diked areas will be promptly removed.

POTENTIAL DISCHARGE VOLUME AND DIRECTION OF FLOW

**SITE: Beaver Hole Facility**

SOURCE	TYPE OF FAILURE	VOLUME (gal)	MAXIMUM DISCHARGE RATE (gal/hr)	DIRECTION OF FLOW	PRIMARY CONTAINMENT
STORAGE VESSELS					
Crude Oil Tanks	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous	West toward unnamed intermittent stream of Buck Creek at a distance of about 950 ft	Earthen containment berm (a)
	Leak at manway	24	1		
	Overflow (1 days production)	1,456	61		
Produced Water Tank	Rupture due to lightning strike, seam failure, etc.	NA	NA	NA	NA
	Leak at manway	NA	NA		
	Overflow (1 days production)	NA	NA		
Treater	Rupture due to lightning strike, seam failure, etc.	15,684	Instantaneous plus production	West toward unnamed intermittent stream of Buck Creek at a distance of about 950 ft	Earthen Containment berm (b)
	Leak at manway or flange	48	2		
FLOWLINES					
Flowlines and piping on storage tanks	Rupture	1,456	61	West toward unnamed intermittent stream of Buck Creek at a distance of about 950 ft	Earthen Containment berm (a)
	Pinhole leak	1,440	60		
Flowlines and piping associated with well	Rupture	7,037 (max)	Instantaneous plus production	11-21: South-southwest. 12-21: West-northwest. 21-21: South-southeast. 31-21: South-southwest.	Spill response equipment - booms, sorbents, ditches, etc.
	Pinhole leak	1,440	60		
Well - Polished rod stuffing box, valves, fittings, etc. (1/4 " stream)	Leak	1,440	60		
TRANSFERS AND LOADING OPERATIONS					
Transport truck loading hose	Rupture	26	26	West toward unnamed intermittent stream of Buck Creek at a distance of about 950 ft	Spill response equipment - booms, sorbents, ditches, etc.
Tank Truck	Over-topping while loading	200	200		
Transfer valve	Rupture	3	3		

(a) Secondary containment berms present but currently have inadequate volume

(b) Secondary containment berms not present and require construction

POTENTIAL DISCHARGE VOLUME AND DIRECTION OF FLOW

**SITE:** 32-20 Injection

SOURCE	TYPE OF FAILURE	VOLUME (gal)	MAXIMUM DISCHARGE RATE (gal/hr)	DIRECTION OF FLOW	PRIMARY CONTAINMENT
STORAGE VESSELS					
Crude Oil Tanks	Rupture due to lightning strike, seam failure, etc.	NA	NA	NA	NA
	Leak at manway	NA	NA		
	Overflow (1 days production)	NA	NA		
Produced Water Tank	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous	South to intermittent stream of Peddy Draw (280 ft) to Buck Creek.	Earthen Containment berm (a)
	Leak at manway	NA	NA		
	Overflow (1 days production)	70,648	2,943		
Treater	Rupture due to lightning strike, seam failure, etc.	NA	NA	NA	NA
	Leak at manway or flange	NA	NA		
FLOWLINES					
Flowlines and piping on storage tanks	Rupture	72,000	Instantaneous plus production	South to intermittent stream of Peddy Draw (280 ft) to Buck Creek.	Earthen Containment berm (a)
	Pinhole leak	1,440	60		
Flowlines and piping associated with well	Rupture	70,648	2,943		Spill response equipment - booms, sorbents, ditches, etc.
	Pinhole leak	2,400	100		
Triplex Injection Pump	Leak	2,400	100		Earthen Containment berm (b)
TRANSFERS AND LOADING OPERATIONS					
Transport truck loading hose	Rupture	NA	NA	NA	NA
Tank Truck	Over-topping while loading	NA	NA		
Transfer valve	Rupture	NA	NA		

(a) Secondary containment berms present but currently have inadequate volume

(b) Secondary containment berms not present and require construction

POTENTIAL DISCHARGE VOLUME AND DIRECTION OF FLOW

SITE: 22-21 Facility

SOURCE	TYPE OF FAILURE	VOLUME (gal)	MAXIMUM DISCHARGE RATE (gal/hr)	DIRECTION OF FLOW	PRIMARY CONTAINMENT
STORAGE VESSELS					
Crude Oil Tanks	Rupture due to lightning strike, seam failure, etc.	21,000	Instantaneous	East-southeast toward unnamed intermittent stream of Buck Creek at a distance of about 2,600 ft	Earthen containment berm (a)
	Leak at manway	24	1		
	Overflow (1 days production)	425	18		
Skim Tank	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous	West toward unnamed intermittent stream of Buck Creek at a distance of about 1,075 ft	Earthen Containment berm (b)
	Leak at manway	24	1		
	Overflow (1 days production)	96,478	4,020		
Treater and knockout tank	Rupture due to lightning strike, seam failure, etc.	98,000	Instantaneous plus production	East-southeast toward unnamed intermittent stream of Buck Creek at a distance of about 2,600 ft	Earthen Containment berm (b)
	Leak at manway or flange	48	2		
FLOWLINES					
Flowlines and piping on storage tanks	Rupture	425	Instantaneous plus production	East-southeast toward unnamed intermittent stream of Buck Creek at a distance of about 2,600 ft	Earthen Containment berm (a)
	Pinhole leak	125	5		
Flowlines and piping associated with well	Rupture	96,478	Instantaneous plus production	22-21: West. 24-20: East-northeast.	Spill response equipment - booms, sorbents, ditches, etc.
	Pinhole leak	1,440	60		
Well - Polished rod stuffing box, valves, fittings, etc. (1/4 " stream)	Leak	1,440	60		
TRANSFERS AND LOADING OPERATIONS					
Transport truck loading hose	Rupture	26	26	East-southeast toward unnamed intermittent stream of Buck Creek	Spill response equipment - booms, sorbents, ditches, etc.
Tank Truck	Over-topping while loading	200	200		
Transfer valve	Rupture	3	3		

(a) Secondary containment berms present but currently have inadequate volume

(b) Secondary containment berms not present and require construction

POTENTIAL DISCHARGE VOLUME AND DIRECTION OF FLOW

**SITE:**            **Bright Facility - Tank Farm East**

SOURCE	TYPE OF FAILURE	VOLUME (gal)	MAXIMUM DISCHARGE RATE (gal/hr)	DIRECTION OF FLOW	PRIMARY CONTAINMENT
STORAGE VESSELS					
Crude Oil Tanks	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous	East-northeast toward unnamed intermittent stream of Buck Creek at a distance of about 300 ft	Earthen containment berm (a)
	Leak at manway	24	1		
	Overflow (1 days production)	1,134	47		
Produced Water Tank	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous		Earthen containment berm (a)
	Leak at manway	24	1		
	Overflow (1 days production)	5,214	217		
Treater or Separator	Rupture due to lightning strike, seam failure, etc.	7,500	Instantaneous plus production		Earthen Containment berm (b)
	Leak at manway or flange	48	2		
FLOWLINES					
Flowlines and piping on storage tanks	Rupture	1,200	Instantaneous plus production	East-northeast toward unnamed intermittent stream of Buck Creek at a distance of about 300 ft	Earthen Containment berm (a)
	Pinhole leak	567	24		
Flowlines and piping associated with well	Rupture	4,853	Instantaneous plus production		Spill response equipment - booms, sorbents, ditches, etc.
	Pinhole leak	1,440	60		
Well - Polished rod stuffing box, valves, fittings, etc. (1/4 " stream)	Leak	1,440	60		Spill response equipment - booms, sorbents, ditches, etc.
TRANSFERS AND LOADING OPERATIONS					
Transport truck loading hose	Rupture	26	26	East-northeast toward unnamed intermittent stream of Buck Creek at a distance of about 300 ft	Spill response equipment - booms, sorbents, ditches, etc.
Tank Truck	Over-topping while loading	200	200		
Transfer valve	Rupture	3	3		

(a) Secondary containment berms present but currently have inadequate volume

(b) Secondary containment berms not present and require construction



POTENTIAL DISCHARGE VOLUME AND DIRECTION OF FLOW

**SITE:**            **Bright Facility - Well 41-8**

SOURCE	TYPE OF FAILURE	VOLUME (gal)	MAXIMUM DISCHARGE RATE (gal/hr)	DIRECTION OF FLOW	PRIMARY CONTAINMENT
STORAGE VESSELS					
Crude Oil Tanks	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous	East-northeast toward unnamed intermittent stream of Buck Creek at a distance of about 300 ft	Earthen containment berm
	Leak at manway	24	1		
	Overflow (1 days production)	293	12		
Produced Water Tank	Rupture due to lightning strike, seam failure, etc.	16,800	Instantaneous		NA
	Leak at manway	24	1		
	Overflow (1 days production)	56,420	2,351		
Treater or FWKO	Rupture due to lightning strike, seam failure, etc.	56,713	Instantaneous plus production		Earthen Containment berm
	Leak at manway or flange	48	2		
FLOWLINES					
Flowlines and piping on storage tanks	Rupture	Oil - 293 Water - 56,420	Instantaneous plus production	East-northeast toward unnamed intermittent stream of Buck Creek at a distance of about 300 ft	Oil -Earthen Containment berm Water - Earthen Containment berm (a)
	Pinhole leak	1,440	60		
Flowlines and piping associated with well	Rupture	56,713	Instantaneous plus production		Spill response equipment - booms, sorbents, ditches, etc.
	Pinhole leak	1,440	60		
Well - Polished rod stuffing box, valves, fittings, etc. (1/4 " stream)	Leak	1,440	60		Spill response equipment - booms, sorbents, ditches, etc.
TRANSFERS AND LOADING OPERATIONS					
Transport truck loading hose	Rupture	26	26	East-northeast toward unnamed intermittent stream of Buck Creek	Spill response equipment - booms, sorbents, ditches, etc.
Tank Truck	Over-topping while loading	200	200		
Transfer valve	Rupture	3	3		

(a) Secondary containment berms present but currently have inadequate volume

(b) Secondary containment berms not present and require construction

POTENTIAL DISCHARGE VOLUME AND DIRECTION OF FLOW

**SITE:**            **Well 44-5**

SOURCE	TYPE OF FAILURE	VOLUME (gal)	MAXIMUM DISCHARGE RATE (gal/hr)	DIRECTION OF FLOW	PRIMARY CONTAINMENT
STORAGE VESSELS					
Crude Oil Tanks	Rupture due to lightning strike, seam failure, etc.	NA	NA	NA	NA
	Leak at manway	NA	NA		
	Overflow (1 days production)	NA	NA		
Produced Water Tank	Rupture due to lightning strike, seam failure, etc.	NA	NA	NA	NA
	Leak at manway	NA	NA		
	Overflow (1 days production)	NA	NA		
Accumulator or Separator	Rupture due to lightning strike, seam failure, etc.	5,610	Instantaneous plus production	East toward Buck Creek (775 ft)	Earthen Containment berm (b)
	Leak at manway or flange	48	2		
FLOWLINES					
Flowlines and piping on storage tanks	NA	NA	NA	East toward Buck Creek (775 ft)	Earthen Containment berm (b)
	NA	NA	NA		
Flowlines and piping associated with well	Rupture	4,854	Instantaneous plus production		Earthen Containment berm (b)
	Pinhole leak	1,440	60		
Well - 4-way valve, line valve or connection	Leak	1,440	60		Earthen Containment berm (b)
TRANSFERS AND LOADING OPERATIONS					
Transport truck loading hose	NA	NA	NA	NA	NA
Tank Truck	NA	NA	NA		
Transfer valve	NA	NA	NA		

(b) Secondary containment berms not present and require construction



# **A p p e n d i x C**

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## **Site Specific Deficiencies and Compliance Schedule**

## **SITE SPCC DEFICIENCIES AND SCHEDULE OF COMPLIANCE**

**SITE: 22-21 Facility**

**DATE: Feb-10**

### **DEFICIENCIES:**

1. Secondary containment capacity inadequate for single largest tank (500 bbl)
2. Secondary containment capacity for Heater Treater/Knockout Tank inadequate
3. Lacking secondary containment for 400 bbl and 500 bbl Skim Tanks

### **WORK TO BE CONDUCTED:**

1. Reconstruct earthen berm around crude oil tank farm
2. Reconstruct earthen berm around Heater Treater/Knockout Tank
3. 500 bbl Skim Tank to be decommissioned; construct secondary containment for 400 bbl Skim Tank

### **SCHEDULE:**

Items 1, 2, and 3 to be completed by September 30, 2010

## **SITE SPCC DEFICIENCIES AND SCHEDULE OF COMPLIANCE**

SITE:     **32-20 Injection Facility**

DATE:     Feb-10

### DEFICIENCIES:

1. Secondary containment capacity inadequate for produced water tank farm

### WORK TO BE CONDUCTED:

1. Reconstruct earthen berm around produced water tank farm

### SCHEDULE:

Item 1 to be completed by September 30, 2010

## **SITE SPCC DEFICIENCIES AND SCHEDULE OF COMPLIANCE**

SITE: **44-5 Facility**

DATE: Feb-10

### DEFICIENCIES:

1. Vessels within building do not have secondary containment
2. Exterior 55-gal additive drum does not have secondary containment

### WORK TO BE CONDUCTED:

1. Construct secondary containment around building
2. Locate 55-gal additive drum within secondary containment

### SCHEDULE:

Items 1 and 2 to be completed by September 30, 2010

## **SITE SPCC DEFICIENCIES AND SCHEDULE OF COMPLIANCE**

**SITE: Beaver Hole Facility**

**DATE: Feb-10**

### **DEFICIENCIES:**

1. Secondary containment capacity inadequate for crude oil tank farm
2. Secondary containment for Heater Treater inadequate

### **WORK TO BE CONDUCTED:**

1. Reconstruct earthen berm around crude oil tank farm
2. Construct earthen berm around Heater Treater

### **SCHEDULE:**

Items 1 and 2 to be completed by September 30, 2010

## **SITE SPCC DEFICIENCIES AND SCHEDULE OF COMPLIANCE**

**SITE:**        **Bright Facility**

**DATE:**        Feb-10

### **DEFICIENCIES:**

1. Secondary containment capacity inadequate for 31-8/44-5 Tank Farm
2. Secondary containment capacity for 41-8 produced water tank inadequate
3. Lacking secondary containment for vessels in buildings

### **WORK TO BE CONDUCTED:**

1. Reconstruct earthen berm around 31-8/44-5 crude oil tank farm
2. Reconstruct earthen berm around 41-8 produced water tank
3. Construct secondary containment for vessels in buildings

### **SCHEDULE:**

Items 1, 2, and 3 to be completed by September 30, 2010





# Appendix D

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## Certification of Substantial Harm Determination Form

### Certification Of Substantial Harm Determination Form

Facility Name: Beaver Hole Facility

Facility Address: SW/NE Sec. 21 T37N R63W Niobrara County, Wyoming

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?  
Yes \_\_\_\_\_ No X
2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?  
Yes \_\_\_\_\_ No X
3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments as defined in 40 CFR 112?  
Yes \_\_\_\_\_ No X
4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?  
Yes \_\_\_\_\_ No X
5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?  
Yes \_\_\_\_\_ No X

### FACILITY REPRESENTATIVE CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true accurate and complete.

R. J. Pith  
(Signature)

V.P.  
(Title)

RATFORD PATTON  
(Name)

2/08/09  
(Date)

### Certification Of Substantial Harm Determination Form

Facility Name: 44-5 Facility

Facility Address: SE/SE Sec. 5 T37N R63W Niobrara County, Wyoming

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?  
Yes \_\_\_\_\_ No X
2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?  
Yes \_\_\_\_\_ No X
3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments as defined in 40 CFR 112?  
Yes \_\_\_\_\_ No X
4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?  
Yes \_\_\_\_\_ No X
5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?  
Yes \_\_\_\_\_ No X

### FACILITY REPRESENTATIVE CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true accurate and complete.

R. J. Pate  
(Signature)

V.P.  
(Title)

R. J. Pate  
(Name)

2/08/09  
(Date)

### Certification Of Substantial Harm Determination Form

Facility Name: 22-21 Facility

Facility Address: SE/NW Sec. 21 T37N R63W Niobrara County, Wyoming

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?  
Yes \_\_\_\_\_ No X
2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?  
Yes \_\_\_\_\_ No X
3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments as defined in 40 CFR 112?  
Yes \_\_\_\_\_ No X
4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?  
Yes \_\_\_\_\_ No X
5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?  
Yes \_\_\_\_\_ No X

### FACILITY REPRESENTATIVE CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true accurate and complete.

R. J. Patten  
(Signature)

V.P.  
(Title)

R. J. Patten  
(Name)

2/02/10  
(Date)

### Certification Of Substantial Harm Determination Form

Facility Name: Bright Facility

Facility Address: NE/NE Sec. 8 T37N R63W Niobrara County, Wyoming

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?  
Yes \_\_\_\_\_ No X
2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?  
Yes \_\_\_\_\_ No X
3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments as defined in 40 CFR 112?  
Yes \_\_\_\_\_ No X
4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?  
Yes \_\_\_\_\_ No X
5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?  
Yes \_\_\_\_\_ No X

### FACILITY REPRESENTATIVE CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true accurate and complete.

R. J. Patten  
(Signature)

V.P.  
(Title)

R. J. PATTEN  
(Name)

2/08/10  
(Date)

### Certification Of Substantial Harm Determination Form

Facility Name: 32-20 Injection Facility

Facility Address: SW/NE Sec. 20 T37N R63W Niobrara County, Wyoming

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?  
Yes \_\_\_\_\_ No X
2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?  
Yes \_\_\_\_\_ No X
3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments as defined in 40 CFR 112?  
Yes \_\_\_\_\_ No X
4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?  
Yes \_\_\_\_\_ No X
5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?  
Yes \_\_\_\_\_ No X

### FACILITY REPRESENTATIVE CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true accurate and complete.

R. P. H.  
(Signature)

V.P.  
(Title)

RAIFORD PATER  
(Name)

2/08/10  
(Date)



# Appendix E

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Inspection Forms

## **ANNUAL FACILITY INSPECTION FORM**



## ANNUAL FACILITY INSPECTION FORM

Facility: \_\_\_\_\_ Date: \_\_\_\_\_

Circle the appropriate response. Note that any "No" response requires corrective actions.

### I. Wellheads

- A. All shut-in wells should have 0 psi at the wellhead and tree: Yes / No
- B. All wellhead and tree connections should be leak free: Yes / No
- C. All active wells should have their master valves operating and serviced to assure they function: Yes / No

### II. Flowlines

- A. All active flowlines are leak free: Yes / No
- B. All visible flowlines are free from serious corrosion: Yes / No
- C. All active flowlines have a gauge installed to monitor pressure: Yes / No
- D. Any clamp-type repairs on active flowlines are free from leaks: Yes / No

### III. Process Equipment

- A. All incoming flowlines (active and inactive) should be identified: Yes / No
- B. Shut down valves are checked for fail-safe closure: Yes / No
- C. Header/manifold systems, process vessels and their interconnecting piping should be leak-free: Yes / No
- D. All automatic dump valves should be checked for fail-safe closure: Yes / No
- E. Operating pressures on process vessels should be at or below the vessel's rated working pressure: Yes / No
- F. Secondary containment system is intact and competent: Yes / No

### IV. Tanks

- A. All bulk storage tanks and their related piping are leak-free: Yes / No
- B. Secondary containment system is intact and competent: Yes / No
- C. All pressure/vacuum reliefs and atmospheric tank vents are operational: Yes / No
- D. Rainwater drain valve is kept in the closed position: Yes / No
- E. Foundations and supports are stable and sufficient: Yes / No
- F. Storage container are free of serious corrosion: Yes / No
- G. Tanks have not experienced overflows: Yes / No

V. General

- A. Drainage ditches proximate to the site are free from oil: Yes / No
- B. Chemical injection systems are free from leaks: Yes / No
- C. Lube oil systems are free from leaks: Yes / No
- D. Facility is graded to drain stormwater away from natural watercourses: Yes / No
- E. Pits are free from oil: Yes / No
- F. Pits have at least 1 foot of freeboard: Yes / No
- G. Liquid level in sumps is adequate to prevent overflow: Yes / No
- H. Alarm systems operate properly: Yes / No
- I. Drip and drain pans are emptied as needed to prevent overflows: Yes / No
- J. Secondary containment for portable oil containers is adequate: Yes / No
- K. Stormwater syphons are free from debris and blockage: Yes / No
- L. Pump seals and related piping are free from leaks: Yes / No

VI. Corrective Actions

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VII. Certification

A. Original Inspection By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

B. Corrective Actions By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## **SPCC INSPECTION SUMMARY**

# SPCC Inspection Summary

Facility: \_\_\_\_\_

## Stock tank and Pressure Vessel Summary

Stock Tank Description / Designation	Year of Construction	Pressure Vessel Description / Designation	Year of Construction	Risk Designation (High or Low) (1)

## Inspection History

Facility Examination (Annually)	Piping External Examination (Annually)	Piping Internal Inspections (2)	Tank External Examination (Annually)	Tank External Inspection (Within 15 years after construction)	Tank Internal Inspection/ Examination (3)	Pressure Vessel External Inspections (4)	Pressure Vessel Internal/ On-Stream Inspections (5)

**Notes:** 1 - Pressure vessel risk is categorized as high or low based upon three criteria:

- 1) potential for failure,
- 2) vessel history including operating conditions, age and remaining corrosion allowance, and
- 3) consequences of failure including location relative to employees, the public, and environmental receptors.

2 - Piping internal examinations may be conducted when equipment is shut-down for maintenance or repairs.

3 - Tank internal examinations are to be conducted when a tank is:

- a) cleaned, b) transferred to a new location, c) service is changed more than 5 years following an inspection, or d) entered for any type of maintenance or repair.

Internal tank inspections are to be conducted at 3/4 of the corrosive rate life as determined by external inspections.

4 - External inspections for pressure vessels categorized as low or high risk shall be performed: when on-stream or internal inspections are performed or at shorter intervals at the owners option.

5 - On-stream or internal pressure vessel inspections shall be performed:

- at least every 15 years or 3/4-remaining corrosion life, whichever is less for low risk vessels, or
- at least every 10 years or 1/2-remaining corrosion life, whichever is less for high risk vessels.

## **PROCESS PIPING INSPECTION FORM**

## EXTERNAL INSPECTION CHECKLIST FOR PROCESS PIPING

### API 574 - Inspection Practices for Piping System Components

Facility: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Inspector: \_\_\_\_\_

#### A. 1 Leaks

- |                     |  |
|---------------------|--|
| a. Process.         | Adequate/Corrective Action<br>Required |
| b. Stream tracing.  | Adequate/Corrective Action<br>Required |
| c. Existing clamps. | Adequate/Corrective Action<br>Required |

#### A. 2 Misalignment

- |   |  |
|---|--|
| a. Piping misalignment/restricted movement. | Adequate/Corrective Action<br>Required |
| b. Expansion joint misalignment.            | Adequate/Corrective Action<br>Required |

#### A. 3 Vibration

- |                                       |  |
|---------------------------------------|--|
| a. Excessive overhung weight.         | Adequate/Corrective Action<br>Required |
| b. Inadequate support.                | Adequate/Corrective Action<br>Required |
| c. Thin, small bore, or alloy piping. | Adequate/Corrective Action<br>Required |
| d. Threaded connections.              | Adequate/Corrective Action<br>Required |
| e. Loose supports causing metal wear. | Adequate/Corrective Action<br>Required |

#### A. 4 Supports

- |                                   |  |
|-----------------------------------|--|
| a. Shoes-off support.             | Adequate/Corrective Action<br>Required |
| b. Hanger distortion of breakage. | Adequate/Corrective Action<br>Required |
| c. Bottomed-out springs.          | Adequate/Corrective Action<br>Required |
| d. Brace distortion/breakage.     | Adequate/Corrective Action<br>Required |
| e. Loose brackets.                | Adequate/Corrective Action<br>Required |
| f. Slide plates/rollers.          | Adequate/Corrective Action<br>Required |
| g. Counterbalance condition.      | Adequate/Corrective Action<br>Required |
| h. Support corrosion.             | Adequate/Corrective Action<br>Required |

**A. 5 Corrosion**

- |   |  |
|---|--|
| a. Bolting support points under clamps. | Adequate/Corrective Action<br>Required |
| b. Coating/painting deterioration.      | Adequate/Corrective Action<br>Required |
| c. Soil-to-air interface.               | Adequate/Corrective Action<br>Required |
| d. Insulation interfaces.               | Adequate/Corrective Action<br>Required |
| e. Biological growth.                   | Adequate/Corrective Action<br>Required |

**A. 6 Insulation**

- |                                  |  |
|----------------------------------|--|
| a. Damage/penetrations.          | Adequate/Corrective Action<br>Required |
| b. Missing jacketing/insulation. | Adequate/Corrective Action<br>Required |
| c. Sealing deterioration.        | Adequate/Corrective Action<br>Required |
| d. Bulging.                      | Adequate/Corrective Action<br>Required |
| e. Banding (broken/missing).     | Adequate/Corrective Action<br>Required |

# **PRESSURE VESSEL INSPECTION FORM**



# API RP 510 - Alternative Rules for Exploration and Production Pressure Vessels

## PRESSURE VESSEL INSPECTION RECORD

Form Date \_\_\_\_\_

Form No. \_\_\_\_\_

Owner or User \_\_\_\_\_

Vessel Name \_\_\_\_\_

Name of Process _____	Owner or User Number _____
Location _____	Jurisdiction/National Board Number _____
Internal Diameter _____	Manufacturer _____
Tangent Length/Height _____	Manufacturer's Serial No. _____
Shell Material Specification _____	Date of Manufacture _____
Head Material Specification _____	Contractor _____
Internal Materials _____	Drawing Numbers _____
Nominal Shell Thickness _____	_____
Nominal Head Thickness _____	Construction Code _____
Design Temperature _____	Joint Efficiency _____
Maximum Allowable Working Pressure _____	Type Heads _____
Maximum Tested Pressure _____	Type Joint _____
Design Pressure _____	Flange Class _____
Relief Valve Set Pressure _____	Coupling Class _____
Contents _____	Number of Manways _____
Special Conditions _____	Weight _____
_____	_____
_____	_____

### Thickness Measurements

Sketch or Location Description	Location Number	Original Thickness	Required Minimum Thickness	Date

Comments (See Note 2) \_\_\_\_\_

Method \_\_\_\_\_

Authorized Inspector \_\_\_\_\_

#### Notes:

1. Use additional sheets, as necessary.
2. The location that each comment relates to must be described.

## **STORAGE TANK INSPECTION FORMS**

# API RP 12R1 - Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service

## Checklist for External Condition Examination

### Identification

Tank Designation: \_\_\_\_\_  
Size: \_\_\_\_\_  
Date of Inspection: \_\_\_\_\_  
Measured or Estimated Liquid Level: \_\_\_\_\_  
Contents: \_\_\_\_\_

### Foundation

Tank Property Supported YES/NO  
Grade Ring/Foundation Structurally Sound YES/NO

### Tank Bottom

Visible Signs of Leakage Around Tank Bottom YES/NO  
Adequate Drainage Away From Tank YES/NO

### Tank Shell

Active Leaks YES/NO  
If Yes, Number & Location

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Signs of Past Leakage YES/NO  
If Yes, Number & Location

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Structural Integrity (Distortions, Warping) YES/NO  
If Yes, Type & Location

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---

Coating Condition Satisfactory YES/NO  
If No, Type & Location

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---

Severe Corrosion and/or Pits YES/NO  
If Yes, Type & Location

---

---

## Checklist for External Condition Examination (Continued)

### Roof Deck

Holes YES/NO  
If Yes, Number & Location

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Adequate Drainage off of Deck YES/NO

Coating Condition Satisfactory YES/NO

If No, Type & Location

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---

Severe Corrosion and/or Pits

YES/NO

If Yes, Type & Location

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---

### Appurtenances/Miscellaneous

Thief Hatch and Vent Valve Seals Air Tight YES/NO

Gas Blanket System Operational (If Applicable) YES/NO

Stairways/Walkways Structurally Sound YES/NO

Proper Warning Signs in Place YES/NO

Dikes Maintained YES/NO

If Fiberglass Tank, All Metal Parts Bonded or Gas Blanket Operational YES/NO

Tank Area Clear of Trash & Vegetation YES/NO

Cathodic Protection System Operational YES/NO

Piping Properly Supported YES/NO

Checklist for Internal Condition Examination

Identification

Tank Designation:

Size:

Date of Inspection:

Measured or Estimated Liquid Level:

Contents:

Tank Shell

Any Visual Leaks or Cracks

YES/NO

If Yes, Number & Location

Any Structural Integrity Problems (Distortions or Warping)

YES/NO

If Yes, Number & Location

Coating Condition Satisfactory

YES/NO

If No, Type & Location

Internal Corrosion (Severe Pits)

YES/NO

If Yes, Type & Location

Roof Deck

Holes

YES/NO

If Yes, Number & Location

Coating Condition Satisfactory

YES/NO

If No, Type & Location

Checklist for Internal Condition Examination (Continued)

Severe Corrosion and/or Pits	YES/NO
If Yes, Type & Location	

Structural Supports or Rafters Damaged	YES/NO
If Yes, Type & Location	

Appurtenances/Miscellaneous

Cathodic Protection System Satisfactory	YES/NO
If No, Location & Problem	

## Checklist for External Inspection

### Identification

Tank Designation: \_\_\_\_\_  
Size: \_\_\_\_\_  
Date of Inspection: \_\_\_\_\_  
Measured or Estimated Liquid Level: \_\_\_\_\_  
Contents: \_\_\_\_\_

### Foundation

Tank Shell Adequately Supported	YES/NO
Tank Floor Level (No Differential Settlement)	YES/NO
Signs of Soil or Foundation Failure (Major Tank Settlement)	YES/NO
Grade Ring/Foundation Structurally Sound	YES/NO
Adequate Drainage Away from Tank	YES/NO

### Tank Bottom

Visible Signs of Leakage Around Tank Bottom	YES/NO
Bottom/Shell Connection Free of Cracks & Leaks	YES/NO

### Tank Shell

Tank Shell Patches	YES/NO
If Yes, Number & Location	YES/NO

\_\_\_\_\_

\_\_\_\_\_

Tank Shell Abnormalities/Distortions	YES/NO
If Yes, Number & Location	

\_\_\_\_\_

\_\_\_\_\_

Visible Signs of Holes/Leaks	YES/NO
If Yes, Number & Location	

\_\_\_\_\_

\_\_\_\_\_

Cracks or Seepage in Seam	YES/NO
If Yes, Number & Location	

\_\_\_\_\_

\_\_\_\_\_

Cracks in Shell/Roof Seam	YES/NO
If Yes, Number & Location	

\_\_\_\_\_

\_\_\_\_\_

Condition of External Coating of Uninsulated Tanks, Holes, Disbonding, Deterioration, Discoloration  
Number & Location

\_\_\_\_\_

\_\_\_\_\_

## Checklist for External Inspection (Continued)

Condition of Insulation Protection of Insulated Tanks, Shell Material (Holes/Tears). Number & Location

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Seal Around Roof/Shell Joint (Separations). Number & Location

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---

Seal Around Appurtenances (Separations). Number & Location

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---

External Corrosion

YES/NO

Tank Bolt/Rivets Corrosion  
If Yes, Number & Location

YES/NO/NA

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---

Tank Fiberglass Delaminated  
If Yes, Number & Location

YES/NO/NA

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Results of Ultrasonic Measurements  
In Vapor Zone

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In Liquid Zone

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### Tank Roof Deck

Hatches Securely Closed

YES/NO/NA

Roof Patches

YES/NO

If Yes, Number & Location

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---

Roof Deck Abnormalities/Distortions  
If Yes, Number & Location

YES/NO

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---

Visible Signs of Holes/Leaks  
If Yes, Number & Location

YES/NO

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## Checklist for External Inspection (Continued)

Deck External Corrosion  
None, Minimal, Moderate, Severe

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Adequate Drainage Off of Deck Condition of External Coating of Uninsulated Deck, Disbonding, Deterioration, Discoloration Number & Location	YES/NO
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Condition of Insulation Protection of Insulated Deck  
Roof Material (Holes/Tears). Number & Location

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Seal Around Appurtenances (Separations). Number & Location

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Results of Ultrasonic Thickness Measurements. (Compare to Original Values)

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Results of Hammer Tests

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### Appurtenances

Thief Hatch & Vent Valves Seal Properly	YES/NO
Thief Hatch Opens Freely W/O Plugging	YES/NO
Vent Valve Operational	YES/NO
Sample & Drain Valves Leak	YES/NO
Inspect Nozzle Seams for Cracks	YES/NO
Piping, and the like, Properly Supported Off of Tank	YES/NO
Tank Shell Dimpling at Connections	YES/NO
Metal Appurtenance Bonded OR Gas Blanket	YES/NO
Operational on Fiberglass Tank	YES/NO/NA
Stairways & Walkways Structurally Sound	YES/NO

## Checklist for External Inspection (Continued)

### Miscellaneous

Cathodic Protection Operational/Potential Adequate	YES/NO/NA
Vapor Recovery System Operational	YES/NO/NA
Gas Blanket System Operational	YES/NO/NA
Containment Dikes and/or Liner Maintained & Adequate Size	YES/NO/NA
Proper Warning Signs in Place	YES/NO
Automatic Level Indicator Operational & Accurate	YES/NO
(Compare to Hand Gauge Level)	YES/NO/NA
Tank Area Clean of Trash & Vegetation	YES/NO

### Recommended Future Action

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## Checklist for Internal Inspection

### Identification

Tank Designation: \_\_\_\_\_

Size: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Measured or Estimated Liquid Level: \_\_\_\_\_

Contents: \_\_\_\_\_

### Pre-Inspection

Tank Properly Cleaned	YES/NO
Tank Atmosphere Properly Tested	YES/NO
Tank Properly Isolated	YES/NO
Tank Structurally Sound	YES/NO
Confined Space Entry Procedure Implemented	YES/NO

### Tank Bottom

Floor Adequately Supported (Limited Voids Under Floor Plate)	YES/NO
Floor Sloped for Adequate Drainage. If Low Spots Exist, Number & Location	YES/NO

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Plate Buckling/Deflection Acceptable	YES/NO
Visually Inspect & Record Plate & Weld Condition	

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Inspect Shell/Bottom Seam

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Condition of Internal Coating (Holes, Disbonding, Deterioration). Number & Location

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Inspect & Describe Pitting Appearance (Depth, Sharp Edged, Lake Type, Dense, Scattered)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Results of Ultrasonic Thickness Measurement

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Checklist for Internal Inspection (Continued)

Results of Vacuum Tests

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Results of Penetrant Dye Tests

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Results of Hammer Tests

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Results of Other Testing (Magnetic Flux Leakage, Acoustical Emission and so forth)

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In Earthquake Zones 3 & 4, Roof Supports Restrained From Horizontal Movement Only (Not Welded to Floor)      YES/NO

**Identify Areas to Be Repaired.** Number & Location

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### Tank Shell

Visually inspect & Record Plate & Weld Conditions. Number & Location

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---

Inspect & Describe Pitting Appearance. (Depth, Sharp Edged, Lake Type, Dense, Scattered, and so on)

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---

Condition of Internal Coating (Holes, Disbonding, Deterioration). Number & Location

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Survey Shell to Check Plumb & Roundness

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Results of Ultrasonic Thickness Measurements in Vapor Zone

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## Checklist for Internal Inspection (Continued)

In Liquid Zone

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Identify Areas to Be Repaired. Number & Location

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### Tank Roof

Inspect & Describe Pitting Appearance (Depth, Sharp Edge, Lake Type, Dense, Scattered)

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---

Conditions of Internal Coating. (Holes, Disbonding, Deterioration) Number & Location

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---

Visually Inspect & Record Plate & Weld Conditions. Number & Location

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Results of Ultrasonic Thickness Measurements

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Check Roof Support Columns for:

Thinning in Vapor Zone

Thinning in Liquid Zone

Drain Opening in Bottom of Pipe or Concrete Filled

Proper Attachment to Roof & Bottom

Inspect Girders & Rafters for Thinning

Girders & Rafters Properly Secured

YES/NO

**Identify Areas to Be Repaired.** Number & Location

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## Checklist for Internal Inspection (Continued)

### Appurtenances

- Visually Inspect All Seals & Gaskets
- Inspect & Service Pressure/Vacuum Hatches/Valves
- Inspect Gauge Well (If Existing)
- Inspect Internal Reinforcing Pads (If Existing) for Cracks
- Inspect Internal Nozzle Seams for Cracks, Corrosion, and the like
- Inspect Diffusers & Rolling Systems
- Inspect Swing Lines
- Inspect Wear Plates

### Recommended Future Action

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**STORMWATER INSPECTION PROCEDURE  
AND DRAINAGE RECORD**

# STORMWATER INSPECTION PROCEDURE AND DRAINAGE RECORD

Earthen berms, containment rings, and other containment structures are inspected on a regular basis for accumulations of oil and precipitation. These inspections are not typically documented. Generally, drainage from containment structures is not conducted. Minor accumulations of precipitation are allowed to evaporate. Large accumulations of fluids may be removed by vacuum truck and either returned to a separation vessel for processing or transported to a permitted recovery/disposal facility.

In the unlikely event that drainage events are conducted, the accumulated stormwater is visually inspected for contamination from oil. **NO** oil is released from or pumped from within the berm onto the ground or into a water course. Drainage or pumping does not occur until the fluids have been inspected for oil. Draining only occurs with constant visual supervision of the drain outlet, and only after determining that the water is indeed fresh. Draining ceases at the first sign of an oil sheen and the remaining fluid is removed and properly treated or disposed. The foreman in charge of the facility operations is consulted before any berm is drained or purged.

As required by law, any time that stormwater is discharged from the dike, a record of the inspection, discharge and oil removal is to be maintained. The following is the discharge record:

[illegible]





# **A p p e n d i x F**

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**Training Record**

# TRAINING RECORD FORM

DATE: \_\_\_\_\_ TRAINER: \_\_\_\_\_

SUBJECT: \_\_\_\_\_

ATTACH COPIES OF ALL HANDOUTS ETC.

[illegible]